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Print Edition March 16th 2002

Too bloody to ignore
The United States has to step in, for its own sake and for that of the Middle East too ... More on this week's lead article

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Politics this week

Mar 14th 2002
From The Economist print edition

Middle East bloodshed

AP

In the worst week so far of the 18-month-old **intifada**, Isreal rolled tanks into Palestinian refugee camps, in search, it said, of the militants who organise suicide bombings. Since September 2000, at least 1,058 Palestinians and 344 Israelis have been killed.

See article: Israel and the Palestinians slug it out

Robert Mugabe won re-election as president of **Zimbabwe**, after a campaign marred by violence and a ballot which many observers, including those from the commonwealth, said was neither free nor fair. His opponent, Morgan Tsvangirai, now faces treason charges and, if convicted, a possible death sentence.

See article: The world and Zimbabwe's election

The convicted Lockerbie bomber, **Abdelbaset Megrahi**, a Libyan intelligence agent, lost his appeal for the downing of Pan Am flight 103 over Scotland in 1988, when 270 died.

Angola's interior minister said that the government would soon reveal a plan to end the country's civil war, taking advantage of the chance offered by the death of rebel leader Jonas Savimbi last month.

America's defence

In a thinly veiled threat to Saddam Hussein, President George Bush marked the six-month **anniversary of September 11th** by reiterating America's commitment to prevent rogue countries obtaining weapons of mass destruction. Separately, the Pentagon loosened its nuclear policy, implying that America might eventually use smaller nuclear weapons in certain circumstances, such as destroying underground stores of biological or chemical weapons.

See article: America's nuclear thinking causes a stir

Doing its bit to commemorate September 11th, the **Immigration and Naturalisation Service** confirmed student visas for two of the dead hijackers.

China said it was deeply shocked by the American defence report, which had also revealed that it was among possible targets for nuclear strikes. American officials sought to play down the report, saying it merely dealt with prudent planning. Russia, North Korea, Iraq, Iran, Libya and Syria were also on the list of possible targets.

Andrea Yates, a Houston mother who drowned her five children in a bath, was found guilty of murder. The jury dismissed her plea of insanity.

Mr Bush signed an **economic-stimulus bill** that will pump $42 billion into the American economy—just when it seems to be recovering.

See article: The new economic stimulus bill

Afghans fight on

The fiercest battle of the **Afghan war** seemed to be ending. The United States claimed that American and Afghan troops had won control of the Shahikot Valley in the eastern mountains, with hundreds of Taliban and al-Qaeda fighters killed or captured. Other reports said that many rebels had escaped into Pakistan.

India's Supreme Court barred all religious activity from taking place at a site in **Ayodhya** claimed as holy by both Hindus and Muslims. More than 700 people have died in recent clashes over the site.

AP

See article: Religion in India

Indonesia's central bank governor was found guilty of corruption and sentenced to three years in prison.

Argentinian stand-off

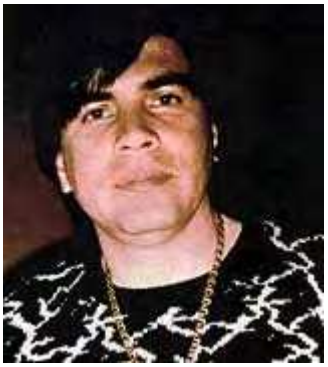
Argentina's president, Eduardo Duhalde, met an IMF envoy, but there were no signs that agreement on a new loan programme was close. The peso sank, briefly to below the value of Brazil's *real*.

In a congressional election in **Colombia**, voters backed supporters of Alvaro Uribe, a tough right-winger who leads the polls for May's presidential election. Voting passed off peacefully, but was preceded by guerrilla attacks on electricity installations and bridges.

See article: A right turn in Colombia's congressional election

Mexican commandos arrested **Benjamin Arellano Felix**, the head of the country's most powerful drug gang, and the United States' Drug Enforcement Administration's “number-one target”. Officials confirmed that his brother, Ramon, the gang's enforcer, had been killed in a shoot-out with police last month.

EPA



See article: Drugs in Mexico

Union gap

European Union leaders gathered for a summit in Barcelona. Main topic: making reality of structural reforms promised in Lisbon two years ago to accelerate EU economies. But France was ready to resist anything more than halfway opening of its energy market, and several countries were uneasy at ideas for freeing labour markets.

See article: Room for improvement

Running for re-election in **France**, President Jacques Chirac said he would slash income tax by a third over his hoped-for new five-year term, and postpone budget balance—supposedly due under EU rules by 2004—to 2007. The EU commission groaned, publicly and forcefully.

Germany's parliamentary budget committee yet again postponed a decision on financing for the proposed A400M heavy-lift military plane from Airbus. Latest pseudo-deadline: March 31st.

Serbia and **Montenegro** (what's left of Yugoslavia of old) signed a deal whereby Montenegro agreed to hold off its demands for independence—for the moment.

Britain said it wanted **France** taken to the EU court over its continued refusal to admit British beef. But, at last, both countries agreed on their dislike of asylum-seekers hitching a cross-Channel train ride: in desperation at the crowds trying to jump on every train, freight traffic through the tunnel was suspended.

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Business this week

Mar 14th 2002
From The Economist print edition

Andersen adrift

Andersen, dreading further defections by audit clients and criminal charges relating to the Enron debacle, talked to 75% of the other big-five accountants about a life-saving merger. Potential saviours fear contingent liabilities and may find it safer to poach Andersen's top staff and clients piecemeal.

See article: Arthur Andersen in trouble

On a brighter note for Andersen, the boss of **SAP**, a European software giant, said he wanted to keep the embattled accountants as its auditor subject to the authorisation of the company's supervisory board.

Allied Irish Banks angered its largest shareholders by refusing to sack Susan Keating, head of Allfirst, an American subsidiary where John Rusnak, a foreign-exchange dealer, lost $691m. Investors felt that Ms Keating, as well as six underlings that the bank did fire, should take responsibility for the poor internal controls that allowed Mr Rusnak to run amok.

Heavily indebted **Qwest Communications** admitted that America's Securities and Exchange Commission is looking into its accounting practices beyond those related to an investigation of Global Crossing, a telecoms company in Chapter 11 bankruptcy protection. Qwest downplayed the probe as “informal”; its shares fell by 5%.

WorldCom, a telecoms firm built on share-driven acquisitions in the telecoms boom years, said that the SEC had also begun a probe of its accounts and other business practices. WorldCom's efforts to shrug off the investigation were less successful; its shares plunged by 12%.

General Electric's annual report weighed in at a hefty 93 pages as the company published extra financial information to guard against the Enron effect. The company took particular care to explain its “special purpose entities”.

See article: General Electric in the spotlight

Smart moves?

Canal Plus, the pay-TV business of Vivendi Universal, launched a $1 billion lawsuit against rival NewsCorp, accusing Rupert Murdoch's boffins of filching technology. **NDS**, a NewsCorp digital-TV subsidiary, is accused of hacking smart cards and putting information on the Internet that allows counterfeiters to pirate the cards. “Outrageous” retorted NDS to the claims, promising a countersuit.

Sir Richard Branson's **Virgin Group** sold 50% of Virgin Blue, its Australian internal airline, to **Patrick Corporation**, Australia's biggest logistics firm, for at least A$260m ($135m). The recent demise of Ansett, once Australia's leading domestic airline, added to the good cheer for Virgin Blue—removing competition and providing knock-down assets at a stroke.

Outrage from investors followed the news that **ABB** would pay Percy Barnevik, a former chairman of the Swedish engineering group, and Göran Lindahl, a former chief executive, a hefty SFr233m ($139m) in pension and severance payments. Mindful of the controversy, and of threats of legal action, the two agreed to payments of less than half that sum.

Wal-Mart, the world's number-one retailer, paid ¥6 billion ($46.3m) for a 6.1% stake in **Seiyu**, one of

Japan's largest supermarket chains. The deal includes an option to up the holding to 33%.

China's government is to test the appetite of the country's investors for a part-privatised utility with an initial public offering of shares in the **Three Gorges Power Company** to raise some 5 billion yuan ($604m) of the total cost of 180 billion yuan. Despite questions about demand for the electricity and objections to the project from environmentalists, an international offering is mooted.

Zurich Financial Services announced losses of $348m for last year, perhaps justifying the recently announced departure of its chief executive, Rolf Hüppi. But despite a string of bad news for the giant insurer, the forceful Mr Hüppi stays as chairman and seems in no hurry to fill the vacancy he will create.

Norway's government took a double-headed battleaxe to the country's **glass ceiling** by promising action to force the country's boardrooms to give at least 40% of seats to women. In the interests of fairness, men are guaranteed the same proportion of places.

Mobiles not moving

Sales of new **mobile handsets** declined by 3.2% worldwide in 2001 to 400m as Europe appeared to reach saturation point and the second-hand market in poor countries burgeoned. Finland's Nokia tightened its grip on the industry with a 35% market share, up from 31% a year ago.

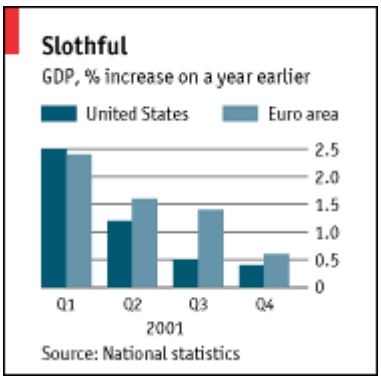
See article: Has America caught up with Europe on mobiles?

Nokia's shares suffered despite its handset dominance. Sales of network equipment could be down by as much as 25% in the first quarter compared with a year ago. **Lucent Technologies** confirmed the poor outlook for equipment makers. Despite a massive restructuring, the company reversed its promise of profits this year.

Europe's low point

Euro-area GDP shrank by 0.2% in the fourth quarter of 2001 compared with the previous quarter, the first contraction since 1993, as Europe's economies felt the effects of the American economic slump and the September 11th attacks. GDP rose by 0.6% at an annual rate compared with a year ago. However, the European Commission expects rapid improvement after recent signs of an American economic upturn.

See article: Europe's economic prospects



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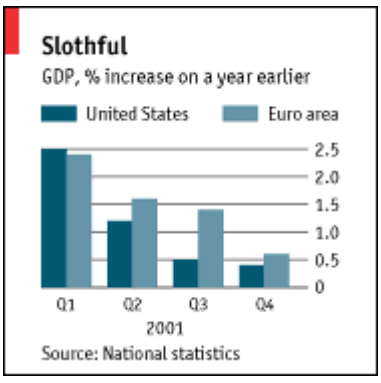

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Zimbabwe

Mugabe's smash-and-grab

Mar 14th 2002
From The Economist print edition

A coup by any other name

Reuters

Get article background

IN THE end, the strangest fact about Zimbabwe's presidential election last weekend was not that Robert Mugabe stole it, but that he went to such extraordinary lengths to do so. How much simpler it would have been to cancel it and declare himself president for life. A coup of that kind would have had repercussions, but they would not have been so different from those that will follow from the drawn-out electoral sham through which the ageing autocrat has dragged his wretched country. The world must now decide how to respond to this coup by ballot-box, and in particular how to register its concern and disapproval without inflicting unnecessary suffering on the innocent majority of Zimbabweans who have just been robbed of their democratic choice.

That they have indeed been robbed should not be in doubt. The plot has involved seizing farms, intimidating supporters of the opposition party, charging its leaders with treason, harassing the press, arresting dissenters, disenfranchising citizens, expelling monitors, ignoring court rulings, obstructing voters and spreading violence throughout the land. And all that was before a vote count that would have been a credit to Enron's auditors. No wonder independent observers, both Zimbabwean and foreign, have called the election neither free nor fair. Only African monitors whitewashed it: South Africa grotesquely declared it “legitimate” (see article).

The damage done

A smash-and-grab of this kind was bound to leave deep wounds on the body politic. Although commendably little violence has followed the election, the possibility of civil unrest remains high. Mr Mugabe's ruling ZANU-PF party is intensely unpopular in urban areas, especially among unemployed school-leavers. It is also especially loathed in Matabeleland, where it is associated with the government troops who killed 10,000-20,000 people in the early 1980s in a vengeful campaign designed to drive home to the local Ndebele people that Mr Mugabe's Shona-dominated party was now in charge. Against this backdrop, it scarcely matters that a central part of Mr Mugabe's strategy for hanging on to power has been to turn black against white: unhappy whites will not turn violent, they will simply leave.

Their departure—and, even more, that of skilled blacks—can only further damage the economy, which has suffered enough. Inflation is in triple figures, GDP has shrunk almost every year since 1996, the value of the currency diminishes by the day and every industry—manufacturing, mining, tourism and agriculture—is in trouble. The chaos on the farms, compounded by drought, is so great that Zimbabwe, traditionally an exporter of grain, is now undergoing serious shortages, notably of maize, the staple food. Perhaps nothing has done more than this to undermine Mr Mugabe's popularity, at least in rural areas where his support has always been strongest.

What should the world do about all this? If Morgan Tsvangirai, Mr Mugabe's opponent, had won the election, it might have had some misgivings: Mr Tsvangirai, after all, is inexperienced in government and the movement he leads is an uncertain coalition united mainly by dislike of the president. Moreover, ZANU-PF would still have held power in parliament. Still, western governments, the World Bank, the IMF and other agencies would have been eager to help get Zimbabwe back on its feet. To do so now would look like a reward for Mr Mugabe that he ill deserves. But even if that were not so, or if it were judged a

price worth paying to help decent Zimbabweans, it is now far from clear how it could be done.

The difficulty is that Mr Mugabe has shown that he values his own power, and that of his henchmen, far above competent management of the economy—never mind democracy or the rule of law. Had this been otherwise, it would have been possible for western donors, led by Britain, to lend financial support to an orderly land-reform programme, something that is still urgently needed. Mr Mugabe, however, is less interested in sensible land tenure than in rewarding cronies, which is why the land he seizes from white farmers so often goes not to peasant farmers but to people like the registrar-general, who has helped make such a mockery of the election, and the chief justice, who presides over a compromised judiciary. Similarly, while Zimbabweans in general are poorer than they have been for five decades, Mr Mugabe keeps his soldiers sweet by giving them pay rises (and allowing the generals to plunder Congo, where Zimbabwe has 10,000 troops). In his quest for booty and control, the president has almost completely elided the difference between party and state, stuffing Zimbabwe's institutions with his friends and using them for his own interests. To lend money—or, worse, to give it—to a government led by such a man would be little short of criminal.

Mr Mugabe values his own power far above competent management of the economy—never mind democracy or the rule of law

Humanitarian aid, however, is a different matter. Outsiders should no more turn their backs on hungry Zimbabweans than on hungry Afghans or North Koreans. Nor should rich countries forget that Zimbabwe has one of the world's highest rates of infection for AIDS: probably 25% of the population has it or the virus that causes it. Whatever can be done to alleviate both hunger and sickness is worth doing, though every effort should be made to deliver the help through independent agencies, not those of the state.

Africa's silence

What of more direct pressure? The clubs to which Zimbabwe belongs, such as the Commonwealth, should move to suspend it at once, if they have any pretensions to making respect for democracy one of their criteria for membership. Strangely, such censure might perturb Mr Mugabe, whose contempt for democracy coexists with a puzzling desire for respectability. But the pressure most likely to produce results would be from within Africa, and of that there has been dispiritingly little up to now. Africans may prefer to engage in private diplomacy. But unless they can point to some persuasive results, they had better speak up in condemnation. Otherwise the world will assume that they think elections are only held to be stolen, in Africa at least.

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America and the bomb

Fission and confusion

Mar 14th 2002
From The Economist print edition

George Bush's nuclear strategy is mostly radical and right—but not without risk

AP

FOR a president who a year ago set himself the laudable aim of reducing America's reliance on nuclear weapons for its defences, George Bush has generated a lot of angry fallout. He stands accused by his critics of looking to America's security at the expense of others, of reducing to rubble the familiar landscape of treaties and agreements that helped manage past dangers. He is developing new missile defences, giving notice of America's withdrawal from the Anti-Ballistic Missile treaty. He has abandoned the quest for new treaty-limited weapons cuts with Russia in favour of unilateral ones. He refuses to ratify a nuclear test ban, accepting only a self-imposed (and more easily lifted) moratorium. Since confidential bits of his “nuclear-posture review” leaked out last week, he has been criticised for abandoning America's long-standing reticence over the use of nuclear weapons, adding instead to the list of potential targets (see article).

The charge-sheet is a long one. Can anything be said in Mr Bush's defence? Actually, rather a lot—though Mr Bush could yet succeed in making America a danger to itself.

Nuclear weapons do play a much smaller role in American military planning now than probably at any time in the past half century. Mr Bush's proposed cut from America's 6,000 operational warheads to 2,000 or so is a measure of that. Once hair-trigger to hair-trigger with Russia in the cold war, America does not now routinely point its missiles at its former enemy.

Changing times, changing targets

Yet America is right to look carefully at how its security can best be assured against the very different threats it now faces. Even before September 11th, not to do this would have been irresponsible. And the lower nuclear numbers go, the harder it gets to maintain stability and security, since unexpected challenges can have bigger consequences when a country has fewer weapons rather than many. So America does need to think hard about the purpose and mix of the ones that remain.

If the aim is to reduce reliance on nuclear weapons, why add Iran, Iraq, Libya, North Korea and Syria to the potential target list? The nuclear powers have long said they will not use their weapons against non-nuclear opponents, but they have refused to make it a legally binding promise. The ambiguity has been deliberate. The ultimate deterrent has always been for ultimate threats, whatever their source.

America and its European allies reserved the right to use nuclear weapons to defend against a Warsaw Pact invasion. George Bush senior told Iraq to expect the “strongest possible” retaliation if it used chemical or biological weapons in the Gulf war. Bill Clinton warned North Korea that an attack on South Korea would be taken as an attack on the United States—implying that nothing could be ruled out. Those on Mr Bush's worry-list have nuclear, chemical or biological weapons, or are trying hard to get them, despite treaty promises not to. All are building the longer-range rockets needed to deliver them. Like his predecessors, Mr Bush is not promising to use America's nuclear bombs against them, just refusing to rule it out.

There are, of course, other ways of dealing with these proliferating problems. One, as Mr Bush has

argued, is to build limited missile defences which, if they could be made to work reliably (still far from clear), could help prevent a hostile regime bent on bother from miscalculating that a threat of a missile strike on New York or Los Angeles, or possibly London, Paris, Berlin or Tokyo, could make aggression pay. Even previously sceptical Europeans and hostile Russians now concede that such defences (assuming they stay limited) could add to security without upsetting stability among the bigger powers.

Another possibility is to hold countries harder to their non-proliferation promises—and so also reduce the danger of weapons falling into terrorist hands. But when America asked for help in imposing sanctions on North Korea for its illicit plutonium dabbling, it got none. Although the UN Security Council had told Iraq to give up all its weapons of mass destruction, Russia and France, keen to get back to oil-business-as-usual, ultimately refused to back up the inspectors—so dividing the council and encouraging Iraq's defiance. The council is taking up the issue again. It should not make the same mistake twice.

The option to screw up

Mr Bush is right to concentrate on such threats. Yet his strategy could be self-defeating if he blurs the line between conventional and nuclear weapons by exploring designs for smaller, more “usable” nuclear warheads. There are genuine dilemmas here. Deterrence can work only if it is credible. If America's only possible response to future threats were a massive mega-bomb, it could end up giving itself more pause than its enemy. It therefore needs a range of weapons, some larger, some smaller—something America's labs can already provide.

But what if an enemy had deeply buried stores of chemical or biological weapons? One proposal is for an earth-penetrating, nuclear-tipped bunker-buster. It is partly because he thinks America might need to test unusual warhead designs such as this that Mr Bush refuses to ratify a test ban. Yet in his determination to keep every conceivable option open, he could put America's own security at risk.

America is the world's pre-eminent power in both conventional and nuclear terms, better able than any other to deal with just about any military contingency with conventional weapons. On this score it has little to fear. It should, however, fear nuclear proliferation, and hence any overturning of the test ban, since that would blow to bits the whole anti-proliferation effort. The test ban was part of a deal that won the indefinite extension of the Nuclear Non-Proliferation Treaty. If America walks away from that agreement, as now it may, so can others. Moreover, an American test would provoke answering blasts from those keen to offset America's military lead. Similarly, by treating nuclear weapons as mere explosives, rather than as weapons of last resort, America would make it more likely that its own forces would have nuclear weapons used against them too. Few American soldiers would salute their commander-in-chief for that.

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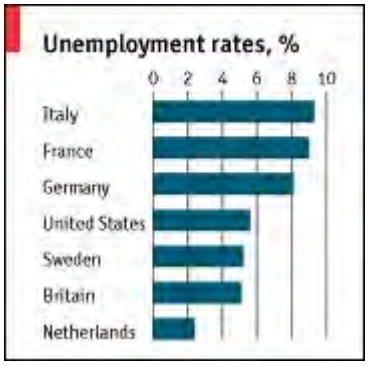
European unemployment

Neighbourly lessons

Mar 14th 2002
From The Economist print edition

America is not the only model for European countries with high unemployment



EUROPE'S governments have long been told that they need to make their labour markets more like America's. Greater flexibility in hiring and firing, lower taxes and lower welfare benefits are the way to cut unemployment. But many Europeans reject the American "hire-and-fire" model, arguing that it means wide income inequalities and the dismantling of the welfare state. The pace of reform in many countries has therefore been disappointing, as European Union leaders meeting in Barcelona on March 15th-16th will know. Yet European countries with high unemployment do not need to look to America for a role model: they can learn as much from each other about the benefits of flexibility (see article).

Everyone knows that Europe has a high rate of unemployment on average. Few realise that more than half of the 15 EU member countries have unemployment rates lower than America's; these include Britain, the Netherlands and Sweden. It is in the continent's giants—Germany, France and Italy—that jobless rates are around 9%, well above America's 5.5%.

Go Dutch

Britain shows how greater labour-market flexibility can curb joblessness (now 5.2% of the labour force) even with a welfare state significantly larger than America's. But many continental Europeans squirm at Britain's growing wage differentials. The Netherlands may offer them a more palatable model. Here, what was once one of the highest jobless rates in the EU has become the lowest (barely 2%)—and without vast pay differentials or the abolition of the welfare state. Instead, in the early 1980s the trade unions agreed to restrain wage demands. In return, firms created more jobs and the government reduced social-security contributions. The government has also reduced jobless benefits, tightened eligibility rules for claimants, and lifted restrictions on part-time work.

Some denounce the Dutch miracle as a myth because an unusually large proportion of the labour force is on disability benefits and excluded from the unemployment count. This is unfair. In 1990 it was true that, although unemployment was low, the Netherlands had an employment rate (workers as a proportion of those of working age) of only 61%, below the EU average. Today, however, 74% of the population have jobs, slightly more than in America. Granted, many of the new jobs are part-time, but that largely reflects the preferences of many female workers, and of employers who gain extra flexibility. Moreover, this is genuine job creation, not job sharing: since 1990 total hours worked in the Netherlands have increased faster than in the United States.

In recent years, France, Ireland and Spain have also seen rapid growth in hours worked partly thanks to a relaxation of labour laws to allow more part-time and temporary work. Two other potential "models", Sweden and Denmark, also suggest that social benefits do not need to be cut to American levels to have low unemployment. In both countries, public spending still amounts to 50% of GDP. But their governments have made their labour markets more flexible, with active policies to help the jobless find work sooner.

The Dutch model is neither perfect nor painless: it requires stiff wage restraint and lower unemployment benefits. However, it shows other governments that they do not need to follow America slavishly to reduce unemployment. To create more jobs, they need only copy their fellow Europeans.

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About sponsorship

Foreign aid

Missing the point

Mar 14th 2002
From The Economist print edition

Paul O'Neill wants foreign aid to be more effective. He should start with his own policies

Panos

BY DIPLOMATIC standards, it has become a dirty battle. One week before George Bush attends a big United Nations conference in Monterrey on how best to finance development, his Treasury secretary is in the midst of a public quarrel about the effectiveness of foreign aid. Led by Gordon Brown, Britain's finance minister, and Jim Wolfensohn, the World Bank's boss, aid advocates want to double assistance to poor countries to $100 billion a year. Mr O'Neill disagrees, arguing that poor countries have received “trillions of dollars of aid” and have “precious little” to show for it. He wants “evidence of what works” before committing any more money.

Mr O'Neill is surely right that much, maybe even most, aid has been wasted over the years. He might have gone further, in fact, and said that a lot of aid has done more harm than good, propping up bad rulers and helping them impoverish their peoples. But he is quite wrong to suggest there is no evidence of what works, or where the difference between good and bad aid resides. Precisely because so many poor countries appear to have so little to show for years of foreign aid, the analysis of aid's effectiveness has become a mini-industry (see article). A lot has been learned. Now would be a good time to put these lessons into practice.

Several conclusions stand out from this research. The most important is that policy matters. Foreign aid tends to work well—that is, it helps to reduce poverty—in countries with good economic policies. In countries with bad policies, it is ineffective at best. Second, aid is better at reducing poverty if it is spent in very poor countries, rather than in less-poor ones. And third, not all foreign aid is equal. Money spent in certain ways—such as on campaigns to eradicate river blindness and smallpox, or to raise rice yields—has been spectacularly successful. Other spending, such as food aid (which helps rich-country farmers) or tied aid (which must be spent on services from the donor country) is much less use.

Judging by his silence on the way America itself allocates its aid, Mr O'Neill has not bothered to acquaint himself with these findings. Not only is the United States the stingiest of all rich-country aid donors (spending only 0.1% of its national income on foreign aid, compared with the European average of 0.3%), its aid is particularly inefficient. Most of the money goes, for strategic reasons, to middle-income countries such as Egypt and Colombia. America spends only 40% of its aid on poorer countries, compared with the rich-country average of approaching 60%, which is itself too low. And American aid is not concentrated on countries with good economic policies: its measly African aid budget is scattered across numerous countries, many of them badly governed.

America may be the most egregious hypocrite in the aid debate, but it is not the only villain. For all their fine words, many rich countries—with a few notable exceptions such as the Netherlands, Norway and, increasingly, Britain—focus more on foreign-policy concerns than on reducing poverty when designing their aid budgets. Around 70% of foreign aid is still spent bilaterally, even though the studies show that multilateral organisations, particularly the World Bank, reach the poor more accurately. The result of this bilateral bias is that many international aid efforts that could make a big difference—for example, the attempts to combat HIV/AIDS, tuberculosis, malaria and other infectious diseases—are often grossly underfunded. Even today, America spends much more on aid for Egypt than it does on battling AIDS in Africa.

The best course would to be to start with a radical reform of bilateral aid

Why not start

programmes to make them better at attacking poverty; then when existing aid flows were well-spent, the discussion could turn to whether more money is necessary. Unfortunately, the chances that America's Congress will switch large chunks of aid from Egypt to the deserving poor in Sub-Saharan Africa are about zero. The same is true of France and its bias towards its former colonies. That is why Mr O'Neill's argument against more aid is so misleading, and why, despite aid's sorry record, it is shameful that America's aid contributions are so low. Since the United States chooses to spend its aid so badly, from the poverty-reduction point of view, it can only make good on its avowals of concern for the poor by providing more money—money that, unlike most of its existing aid, is actually designed to reduce poverty.

with a radical reform of bilateral aid programmes to make them better at attacking poverty?

Unfortunately, that point is lost in the current slanging match. Instead of general exhortations to double aid flows, Messrs Wolfensohn and Brown should highlight the countries and programmes where existing aid could be used much better right now. Given its good historical record, health spending should be high on the list. A recent study for the World Health Organisation showed convincingly that a few key investments, costing donors around $27 billion annually, could save 8m lives a year in the poorest countries. America's share of this cost might plausibly be $9 billion, or around $30 per American. Most Americans, including even Mr O'Neill, might regard that as money well spent.

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Professional services

For better, for worse

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From The Economist print edition

The fate of Andersen promises to be a salutary reminder of the meaning of partnership

Get article background

“FOR richer, for poorer; in sickness and in health.” The contract between two partners in marriage is in some respects like that between partners in business: each enjoys the right to share in the profits in return for sharing the losses. The frantic efforts of Andersen this week to sort out its post-Enron fate smack of worried men and women seeking to distance themselves from the stench emerging from the Houston office of their partners in the firm of international auditors.

But partners are meant to stand together, jointly liable for each other's wrongdoings. All Andersen partners who shared in any way in the fruits of the American auditing business in its good years (and it had more than a few) should now be standing ready to pay their share of the costs of the Enron-related lawsuits that continue to pop up everywhere. Instead, many are trying to start life at a new firm and put their past behind them. This approach has the same blame-shifting, mud-slinging potential as the debacle at Lloyd's in the 1990s. And for many, possibly, it will have the same painful conclusion.

The main problem is that in recent years the concept of partnership has been stretched to fit a new business model. There was a time when George knew Fred and Dave and they set up as partners to do business with their neighbours. When one of them was tempted to stray, word got around. Part of the great strength of partnerships was their ability to be self-monitoring and self-correcting. Today, however, partnerships cover the globe. Andersen has more than 50,000 partners in 390 offices from Tashkent to Tulsa. Some of them are accountants, but many are consultants and 550 of them are lawyers. No such group of people can be self-monitoring.

There is another problem. A partnership in a big firm has become a carrot to persuade ambitious young professionals to work long hours for little money. It has never been seen as a huge potential liability. Yet that is exactly what many Andersen partners may now face.

The consequences of the Andersen case are still unfolding. One may be an end to MDPs—multidisciplinary partnerships, the joining of accountants and other professionals into a single partnership. What lawyer today, for example, wants to share liabilities with an “aggressive” accountant? Another lesson is already clear. Today's mantra from the marketing department is KYC, Know Your Customers. For professional-service firms it should be KYP: Know Your Partners.

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About sponsorship

Letters

Mar 14th 2002
From The Economist print edition

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Banishing bribery

SIR – You strike at the core of the problem of international bribery; how to resolve the competitive disadvantage confronting a company that wants to eschew bribery ("The worm that never dies", March 2nd). This problem is tackled head-on by Transparency International's integrity pact, under which all bidders provide a binding assurance that they have not paid, nor will pay, any bribes to obtain a contract. Pre-agreed sanctions include blacklisting. There have now been more than 100 integrity pacts worldwide.

One correction to your special. While Britain did rank seventh (and America ninth) out of 19 exporting countries in the Transparency International bribe-payers index of 1999, you refer to the latest ranking, where Britain comes 13th, and America 16th out of 91 countries. That ranking comes from our corruption-perceptions index of 2001, an annual poll of polls on the degree to which corruption is perceived to exist among public officials and politicians.

Peter Eigen
Chairman,Transparency International
Berlin

SIR – We at Shell do not seek praise for our efforts to stand up and be counted on the important subject of bribery but it is unfair to criticise us for trying. Our strict "no bribes" policy is set out in our statement of business principles. No one pretends that implementing the policy is easy and nor are we saying that we are perfect, but we do believe that by making our policy clear to those inside and outside Shell and publishing information on our progress each year in the Shell Report that we can make a positive contribution. You suggest that the reported low incidence of bribes is surprising. We report only the proven cases but investigate many more suspected incidents; even when not proven, thorough investigations make it clear that we mean what we say with "no bribes".

Also, you are wrong that Shell tries to make a distinction between bribes and "facilitation payments". We do not. Indeed, our management primer on the subject makes clear that they should be seen in the same way.

Robin Aram
Head of external relations and policy development, Shell
London

SIR – As a long-time reader, I have always appreciated your global views and your interest in details. Imagine my surprise when I saw the illustration representing bribery. My seven-year-old daughter immediately recognised that the creature in the apple was in fact an earthworm (*Lumbricus terrestris*). Even with my limited knowledge of the subject, I know that earthworms are not parasites and certainly do not like apples.

My daughter does not normally read *The Economist*.

Denis Simonin
Brussels

Off-target on guns

SIR – After reading your article on guns and children ("Bang, bang, you're dead", March 2nd), I dug further into the study you quote. The data merely show that rural states, with hunting and inaccessible emergency rooms, have the most deaths caused by firearms—of both adults and children alike. Also, the study uses adult fatalities to rank the states, so the only insight is that child-firearm fatalities are correlated with adult-firearm fatalities. Do we need Harvard to tell us that?

Andy Schlafly
Far Hills, New Jersey

War and peace

SIR – The level of violence between Israel and the Palestinians is so high that the crisis can fairly be described as a war ("Flights of fancy", February 23rd). The Palestinians' objective is to make the cost of occupation too high for Israel's public to tolerate. The Israeli government's objective is to make the cost of terrorism too high for the Palestinians to continue the *intifada*. Both sides believe the objective is attainable because neither side appreciates the determination of the other.

The impasse is unlikely to be broken by further peace proposals and meetings. One must regretfully conclude that both sides, in spite of public declarations to the contrary, see no other solution but a military one and are prepared to pursue it even if it accelerates into an all-out war in the Middle East.

D.I. Solomon
Victoria, Canada

SIR – Crown Prince Abdullah's recent peace initiative could be a turning-point. Palestinians like myself believe it would be if it wins broad support from Israelis. If the Arab League states endorse it formally and publicly, the Arab world, which 50 years ago was ganging up on Israel, will recognise its right to exist in security and within well-defined borders. Those in Israel who are understandably sceptical about such a big shift should ponder the reasons behind it. Prince Abdullah's goal is to bring stability to the region. He recognises the new realities of the globalised world and the pressing need for reform in Arab countries. Israel's occupation is a big obstacle to change.

S.A. Sherif
Montreux, Switzerland

Covering China

SIR – Decent English-language printed news is hard to find in China's smaller cities, which is why I often pick up a copy of *The Economist* at the Hilton Hotel near the school where I teach. After purchasing the February 16th issue, I leafed through looking for the article on "Corruption in China" advertised on the cover. Perhaps it should have boasted of "Censorship in China"—it had been ripped out. Do me a favour and do not mention articles about China on the front of your paper. That way I may get to read them.

Brendan Sheridan
Dalian, China

Few floods and insects

SIR – I deeply resent your disparaging remarks about Winnipeg ("Dateline Winnipeg", March 2nd). Of course it is cold—isn't everywhere in the northern hemisphere? But we know how to cope. Our streets are ploughed and sanded after every snowfall, our insulated homes are centrally heated and our international airport never closes. This is in complete contrast to my time in Britain: damp, dark, dismal, dreary and chilly. Half an inch of snow would bring the country to a grinding halt.

We have a respectable art gallery, the Royal Winnipeg Ballet, a thriving theatre scene, incredible Inuit art and numerous delightful parks and gardens, and we have more restaurants per head than almost anywhere else in North America. In the summer the mosquito population has been controlled and floods are increasingly rare because of a floodway built in 1968.

Rahul Banerjee
Winnipeg, Canada

Value judgment

SIR –“Like most Americans, [Charlotte Beers]...naturally assumes that her values are the right ones” (Face value, February 23rd). What does this mean? It sounds like an idle slap at America but if you have evidence of other, more enlightened countries where most people assume that their values are the wrong ones, do tell us. It sounds like a damned interesting story.

Michael Kalk
Austin, Texas

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The poll that Bob stole

Mar 14th 2002 | BULAWAYO AND HARARE
From The Economist print edition

AP

After a blatantly rigged ballot, Robert Mugabe has won another six years in office. Poor Zimbabwe

Get article background

IN ZIMBABWE, the thieves are in charge and their victims face prosecution. On March 13th, President Robert Mugabe was declared the winner of a nakedly crooked election. His challenger, Morgan Tsvangirai of the Movement for Democratic Change (MDC), refused to accept the result. But Mr Mugabe's troops, armed with machineguns and rocket-propelled grenades, took to the streets to deter protests and surrounded the MDC's offices in Bulawayo. And Mr Tsvangirai himself now faces a legal challenge, as the regime presses treason charges against him and two of his lieutenants.

Of nearly 3m votes cast, Mr Mugabe won 1,685,212, or 56% of the total, excluding spoiled ballots. Mr Tsvangirai could only manage 1,258,401, or 42%; three minor candidates scooped the remainder. Mr Mugabe's party, the Zimbabwe African National Union-Patriotic Front (ZANU-PF), said their man won because voters liked his policy of seizing white-owned farmland and giving it to blacks, and also because they saw Mr Tsvangirai as a stooge of Britain, the former colonial power.

But there are one or two reasons for suspecting that the election was unfair. The electoral roll was fiddled to reduce the number of educated, urban voters and to swell the ranks of rural, illiterate and dead ones, who were thought more likely to vote for Mr Mugabe. During the campaign, Mr Mugabe's militia had rampaged through the Zimbabwean countryside, sometimes torching the huts of suspected opposition supporters or holding their heads in buckets of water until they passed out. According to one charity, three-quarters of Zimbabweans saw or were affected by state-sponsored violence.

Once the polls opened, Mr Mugabe's supporters found it easy to vote. In rural areas, where most of them live, government trucks ferried them to the polls. Some waverers were reportedly escorted into polling stations by militiamen, and told that secret cameras, microphones or even mobile telephones would somehow be used to reveal their choice. Despite this, many said they believed that their ballot was secret: “I felt I could vote for what was in my heart” was used as code for “I voted MDC”.

Three-quarters of Zimbabweans saw or were affected by state-sponsored violence, according to one charity

The number of polling stations in urban areas, where almost everyone supports Mr Tsvangirai, was slashed. This led to mile-long queues, which officials processed as slowly as they could, sometimes reading through the entire voters' roll, starting with A, to find voters' names beginning with Z. In Harare, thousands waited all weekend in the searing sun, but still failed to reach the front of the queue. After a petition by the MDC, a judge ordered the polls to open for another day. The registrar-general, a Mugabe flunkey, assented but delayed the reopening for half a day “to test the equipment”. In rural areas, some polling stations were

erected in the middle of camps formed by self-proclaimed veterans of Mr Mugabe's old guerrilla army, who have spent the past two years beating up his opponents.

The sites of polling stations were kept secret until the last moment. In rural areas, perhaps half the polling stations lacked independent monitors. Some had been refused accreditation, while others were simply chased away. MDC polling agents tried valiantly to monitor the voting, but were not allowed to ride in the same cars as ballot boxes. Some who tried to follow in their own cars were stopped at police roadblocks. According to Amnesty International, 1,400 polling agents and observers were arrested, usually on suspicion of “vote-rigging”.

In one rural constituency, polling agents reported that only about 300 people had voted, but official results showed over 1,000 ballots, mostly with the cross by Mr Mugabe's name. In another constituency, observers said only 12,000 ballot papers had been cast—yet officials in Harare produced 20,000. Mr Mugabe did surprisingly well in Matabeleland, where his soldiers killed and tortured thousands of people in the 1980s, suprisingly well in eastern Masvingo province, where the local ZANU leader actually campaigned against him, and magnificently in his home region, Mashonaland, where turnout in some constituencies reached over 90%. To accept these results you have to believe that Mr Mugabe and his party have grown more popular since a parliamentary election in 2000, despite the fact that Zimbabweans have grown dramatically poorer and more frightened since then.

Most observers, including some African MPs, condemned the poll. But two groups from South Africa called Mr Mugabe's victory “legitimate” and blamed the difficulties faced by opposition supporters on “administrative oversights”. For Kenya's president, Daniel arap Moi, Mr Mugabe's victory was “testimony of the confidence and high esteem the people of Zimbabwe hold you in.” Thabo Mbeki, South Africa's president, refused to comment immediately, letting it be known that he wants to work through the Commonwealth. It appears that he is reluctant to offend Mr Mugabe. Last week, Mr Mbeki suggested that governments that sought Zimbabwe's suspension from the Commonwealth were “inspired by notions of white supremacy.”

It appears that Thabo Mbeki, South Africa's president, is reluctant to offend Mr Mugabe

Mr Mbeki's attitude has baffled outsiders. Mr Mugabe's antics have dashed confidence in the whole region. South Africa's currency, for example, has lost 32% of its value in the past year, partly because of spillover jitters from Zimbabwe. Western fund managers have jitters not merely because they do not know the difference between one African country and another; they also note that African leaders such as Mr Mbeki are deeply reluctant to criticise the despot on their doorstep. Their reluctance may reflect Mr Mugabe's standing as an elder statesman in a continent where age is revered. Or perhaps they defer because he leads the party that liberated Zimbabwe from white rule, which gives him kudos in a region where the parties of liberation still rule many countries. But pessimists worry that some African rulers ignore Mr Mugabe's ballot-stuffing because they do not altogether disapprove.

An economy plundered

Like a buffalo or an elephant, Mr Mugabe is most dangerous when he feels threatened. Between 1987, when he crushed a tribally based opposition movement, and 1997, he felt reasonably secure. During this period, he ruled Zimbabwe badly, but not atrociously. But as his people grew poorer, Mr Mugabe became less popular, so he started issuing populist decrees to please the electorate.

To soothe disgruntled veterans of the war against white rule, for example, he gave 50,000 of them huge bales of cash. He did not have the money, so he borrowed or printed it. To win the gratitude of rural voters, he offered them free land. Not idle state-owned land, but land belonging to white commercial farmers. (Besides rewarding Mr Mugabe's supporters, this was intended to punish the farmers, whom he suspected of backing the opposition.) Meanwhile, in 1998, to prove that he was still a great leader, he dispatched a third of his army to rescue Congo's government from being toppled by rebels. Zimbabwean troops have been embroiled in Congo ever since. Zimbabwe has no obvious national interest in Congo, so the war is unpopular. Zimbabwean taxpayers and savers foot the bill, while several of Mr Mugabe's cronies have grown rich by looting Congo's diamonds.

By announcing that property rights were no longer to be respected, Mr Mugabe killed investment. By spending a fortune he did not have, he sparked inflation—currently running at 117%—which gobbled the wages of the poor. In a vain attempt to curb this inflation, Mr Mugabe imposed price controls on fuel and basic foods, which led to shortages.

Zimbabwe's public accounts now read like a drug-addict's credit-card statement. In 2000, according to an IMF estimate, Mr Mugabe's government spent twice as much as it received in tax revenues. The next year, the junkie grew more adept at stealing old ladies' handbags. Expenditure was only one-and-a-half times tax revenues, largely because the regime had forced its domestic creditors to accept lower interest and later payments. The government also started issuing treasury bills yielding far less than the rate of inflation. Since no one would buy them voluntarily, the regime started to enforce a rule that institutional investors should put 45% of their portfolios into government paper. Zimbabweans who thought they had adequate pensions now find that they have practically nothing.

The local currency is pegged to the American dollar at the rate of 55 to one, but the black-market rate is between 300 and 350. “Please note,” says a sign outside a typical bureau de change in Bulawayo, “we do not sell foreign currency.” Only the government can get greenbacks at the official rate, and only by using force. Most exporters are obliged to surrender 40% of their hard-currency earnings. This rip-off has prompted many previously honest businessmen to turn to smuggling, and pushed others into bankruptcy. Zimbabwe's recorded international trade has contracted by about 30% since 1996-97.

In the past two years, the economy has dive-bombed. (Unless, of course, you believe that 55 Zimbabwean dollars are really worth one American dollar. In that case, Zimbabwean GDP grew by more than 80% between 1999 and 2001, making it by far the fastest-expanding economy in the world.) A leaked report from the IMF says that income per person fell by 10% last year and has fallen by 23% since 1997. Using a different method, John Robertson, a Zimbabwean economist, reckons it has tumbled by more than 50% since 1997.

Dying factories, deserted farms

Every sector is distressed. Commercial farmers, obviously, find it hard to cultivate their fields with squatters pinching their tractors and Mr Mugabe's hooligans dropping periodically by to break their workers' tools on their heads. Amazingly, the most recent tobacco crop, Zimbabwe's main export earner, was down by only about 20% on the previous year. But drought and bad government have caused food production to collapse. The price of maize, Zimbabwe's staple, is fixed and pitifully low, so few commercial farmers planted it. Mr Mugabe boasted that the peasants whom he settled on formerly white-owned farmland would produce a bumper crop, but they did not. Most knew little of farming, and the government gave them no help.

A visit to a recently resettled farm is sobering. A dusty road divides two fields. On one side is a still-functioning commercial farm, full of green tobacco plants, bustling with workers picking the broad leaves and hanging them on a rack. On the other side is a field that the government grabbed and gave to Mr Mugabe's supporters. Withered stalks stand flaking in the sun. The new farmers did not have enough fertiliser, and failed to plant their seeds in time for the early rains. Their crop was a write-off. Unable to feed themselves, let alone anyone else, 17 of the 20 families that were settled here have drifted away.

Zimbabwe is expected to produce between 500,000 and 750,000 tonnes of maize this year, but Zimbabweans need 1.8m tonnes to stave off hunger. As many Zimbabweans have registered for food relief as voted in the election, and half a million are thought to be in danger of starving. The collapse of Zimbabwean agriculture has also aggravated droughtinduced food shortages in neighbouring Zambia and Malawi.

AP

Many Zimbabwean farmers cannot service their loans, which is one reason why several Zimbabwean banks are on the verge of collapse. To add to the banks' woes, the government has fixed interest rates below the rate of inflation, so Zimbabweans with spare cash are buying cars or building extensions to their houses rather than putting it in the bank. With the economy in tatters, there are few sound firms to lend to, and roughly a quarter of loans are thought to have gone bad. The old-established banks such as Barclays, Standard Chartered and Stanbic are in sound shape, but some of the newer ones, particularly those set up by Mr Mugabe's chums, are rickety. These banks have been buoyed by government business, but have made some generous loans to ministers and cronies. If interest rates are freed again, many of these loans will become unpayable.

On balance I'll think I'll stay

No fizz in the glass

Zimbabwe used to be an industrial powerhouse, second only to South Africa in the region. But the country is now undergoing an industrial revolution in reverse. With foreign currency scarce, factories are whimpering to a halt for want of fuel or imported spare parts. Zimbabwean manufacturing, which accounted for 27% of GDP in the early 1990s, is now only 13% of a much smaller economy. Zimbabwe's rapacious capitalists are so enfeebled that they have trouble laying their lips on a cold Coke. At a cocktail reception held last week by the Confederation of Zimbabwean Industries, the locally-made fizzy drinks ran out. The whole supply chain has broken down: bottlers lack bottles, sugar wholesalers cannot get hold of sugar, and no one can lay hands on enough carbon dioxide or syrupy concentrate.

The country's great mineral wealth is largely staying underground. Gold production slumped 20% last year, mainly because a fat chunk of export proceeds have to be sold to the government at the punitive official exchange rate. Several mines would close were it not for the enormous cost of reopening later.

Tourism, a huge success in the mid-1990s, has plummeted from 8% of GDP to less than 4%. Zimbabwe has majestic rivers, soft sunshine and parks teeming with big game, but the mobs with nail-studded clubs are less attractive. One farmer, who used to run hunting tours near Bulawayo, says that Mr Mugabe's thugs have destroyed his business. Rich foreigners once paid thousands of dollars to shoot impala and leopards. “Now it is all ruined,” he says. “They have killed the animals, burnt the trees and taken down my fences. How can we start this again?”

Zimbabwe's shopkeepers are suffering, too. Their shelves are all but bare of basic goods such as maize meal and cooking oil. Scuffles erupt in the aisles, as desperate shoppers wrestle for the last loaf of bread. Some stores have stopped displaying food altogether, and started to sell what little they have from the back. At one shop your correspondent visited, the army and police jumped a long queue and bought almost all the maize, leaving 400 ordinary customers to squabble over the last 20 bags. Enraged, the crowd started banging at the storeroom gates, until the police ordered them to disperse.

With the right medicine, Zimbabwe could recover. The country still has roads, mines, factories, telephones and some of the best-educated people in Africa. All these could start working again if Mr Mugabe's dreadful policies were reversed.

With the right medicine, Zimbabwe could recover

A recovery plan would have to include a restoration of respect for property rights, an end to price controls and more responsible fiscal and monetary policies. Zimbabwe's crushing foreign debt needs to be rescheduled, as does the government's equally scary domestic debt. This would buy time to put the government's finances in order, starting by pulling the army out of Congo. The civil service needs trimming, and the monstrous, loss-making, crony-stuffed state-owned firms, such as NOCZIM, the fuel-importing monopoly, and ZESA, the electricity monopoly, need to be privatised.

Mr Mugabe is unlikely to do any of these things. Having campaigned with one promise—to give white-owned land to black people—he can hardly tell his supporters that he now wants to give it back. Had he won, Mr Tsvangirai had promised to redistribute land in a more orderly way, helping small farmers to grow tobacco and coffee, issuing proper title deeds and compensating landowners fairly. Mr Mugabe, by contrast, is offering further chaos. “We'll finish what we started,” he said last week. Other officials have

threatened that the next step will be to seize white-owned mines and businesses, and then to dispossess Zimbabwe's Asian citizens. Even if Mr Mugabe were to change his mind, who would trust him?

Facing the consequences

The opposition, meanwhile, is unsure what to do. On March 13th, Mr Tsvangirai stopped short of calling for mass protests, doubtless for fear that his supporters would be mown down. Privately, MDC leaders expect to be persecuted. One, Welshman Ncube, was arrested as he tried to flee to Botswana with his family soon after voting ended. It appeared that Mr Tsvangirai, who with Mr Ncube has been charged with plotting to assassinate Mr Mugabe, had tried to send his colleague abroad to speak for the MDC in case of mass arrests. By mid-week at least 45 MDC youths had been detained by police in Midlands province.

It is possible that Mr Mugabe might, after a dignified pause, stand down for reasons of “ill health” and hand over power to a protégé. If his successor were one of the less extreme members of the cabinet, such as Simba Makoni, the finance minister, the IMF might even be persuaded that it was dealing with a new, reformist government that deserved financial support. It would not be the first time donors would have thrown good money after bad. But a more likely future for Zimbabwe is one of isolation and penury. Foreign donors will offer food aid, but few will offer cash or friendship. A few years ago, Zimbabweans were only joking when they said that Mr Mugabe would rather wreck the country than lose control of it. But he seems to have done just that.

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About sponsorship

State constitutions

Old Alabama won't leave politely

Mar 14th 2002 | MONTGOMERY
From The Economist print edition

America rightly lectures third-world countries about voter fraud and political oppression. Parts of America are still grappling with the legacy of the same things

AP

DANTE PICCINI, a Republican from Mobile, Alabama, stands in the state legislature waving copies of the bible and the communist manifesto. Our choice, he implies, is between these two documents. Sandra Lane Smith, the president of the Association for Judeo-Christian Values, says Alabama must defend "the only thing that stands before us and tyranny." Nonsense, says the Reverend Jerry Burks: "There is a seething fermentation within the citizens of this state that cries out for change." The governor, Don Siegelman, claims the decisions the politicians must take will define the state for generations.

The immediate question is boringly technical: the rules committee of the Alabama House of Representatives must decide whether the full chamber should approve a referendum to decide if a new constitution should be written by a special convention next year. But the issue goes deeper. This is the first time the legislature has addressed the latest, and most widely supported demand to change Alabama's founding charter. It is also one more struggle in the war between Old South and New South, and an example of how decisions made 100 years ago still affect the day-to-day conduct of politics.

Alabama has a reputation as a backward, gun-toting, bible-thumping, redneck place. This is wrong. Unlike its neighbour, Mississippi, it is not dirt-poor. Its main city, Birmingham, boasts the largest concentration of financial institutions in the south after Charlotte, North Carolina, plus a huge Mercedes-Benz factory.

But the state is peculiar. Alabama has the lightest tax burden in the South by far. It is the only state never to have had a modernising "New Southern" governor. George Wallace is partly to blame: his governorship in the 1960s and 1970s sabotaged the state's attempt to overcome the legacy of the Old South (as other states did). But the bigger reason is the constitution of 1901.

John Knox, the planter who chaired the 1901 convention, made no bones about his aim: "to establish white supremacy in this state". Section 102 said "the legislature shall never pass any law to authorise or legalise any marriage between any white person and a negro." This was amended away only in 2000, though it had been illegal under the US constitution for decades. Section 256 said "separate schools shall be provided for white and coloured children." And black voters were disenfranchised. In the last decade of the 19th century, almost 80% of Alabamians, black and white, had registered to vote. By 1908, only 2% of blacks were eligible, though their voting rights had in theory been guaranteed by the US constitution.

Alabama was not the only southern state to exclude blacks. But it took the various tricks pioneered elsewhere to circumvent the US constitution and used them all: property qualifications, poll taxes as a condition of voting, a requirement that voters be of "good character" (as defined by white officials) and a ban on blacks accused of vagrancy, a charge that could be levied against them at will. When white South Africans were planning their apartheid constitution, they supposedly used Alabama as a model.

Racism was not the sole aim of the constitution. In the 1890s, poor white farmers were being ruined by falling cotton prices. Their man, Reuben Kolb, won the races for governor in 1892 and 1894 on promises to regulate trusts, abolish national banks, protect black votes and introduce a progressive income tax—only to see the elections stolen from him by fraud. What one newspaper called the “Populite-Nigger-Communist Social Equality ticket” terrified the plantation owners and steel barons even more than black voters did. These rich “Big Mules” used the cry of “white supremacy” first to paper over differences with poor whites and then as a ruse to disenfranchise them. The constitution's devices also cut white voter rolls, though only by one-third.

More important, it set up a system of government to make Alabama safe for plantation owners. After the Civil War, local county governments had run up huge debts to build railways and modernise the state. To prevent poor whites from using county governments to do anything like that again, the constitution banned counties from writing local laws and centralised almost all decision-making and law enforcement in Montgomery.

The plantation owners underlined their dominance with a remarkable clause (section 93): “The state shall not engage in works of internal improvement, nor lend its money or its credit in aid of such; nor shall the state be interested in any private or corporate enterprise.” This clause was so insane—it would prevent the state from building roads or other “works of internal improvement”—that it was amended rapidly. But it remains on the books.

Change oughta come

The constitution was itself the product of electoral fraud. The decisive votes that returned a collection of white supremacists to the convention were cast in areas of the state which were 75% black. Yet this squalid history is not necessarily a reason for scrapping the existing constitution.

If it contains racist language, so does the US constitution, which defines blacks as three-fifths of a person for the purpose of census-taking. The racist provisions have no legal force, having been amended away. The clause preventing the state from dealing with private companies did not prevent Alabama from wooing Mercedes-Benz with copious subsidies. And many Alabamians like the restrictions the constitution places on the state's power.

The real argument for rewriting the constitution is practical. It is not true that the document is unworkable (it might be easier to change if it were). But it can be made to work only at huge cost. At well over 300,000 words, it is longer than “Moby Dick” and 40 times the length of the US constitution. The 1901 document itself accounts for only about a tenth of this. The rest comes from some 700 amendments, which are appearing with increasing rapidity (52 in 2000 alone). Most states in the South have amended their constitutions fewer than 100 times.

Many of Alabama's changes have nothing to do with the basic framework of government. Three amendments permit counties to spray for mosquitoes; two permit poultry growers to levy a tax on each hen sold in the state; one allows the Alabama Music Hall of Fame to buy CDs. The constitution is not so much a founding document as a sort of constitutional preamble to hundreds of pages of rules.

But the real problem is not the length. Rather, it is incoherent in two areas. The first is the relationship between the state and local governments. Counties have no power to act on their own. They lack authority over those two staples of local government, land use and school financing.

This hits the fastest-growing parts of the state worst. Hardy McCollum, the chairman of the Tuscaloosa County commission, quotes Thomas Jefferson's dictum that the body that governs best is the one closest to the voters. He is continually having to petition the state government to write a law on his county's behalf.

Sometimes this is done extremely badly. In one case, the state government amended a local law in Jefferson County in contradictory ways and then took 30 years to sort it out. Just as often, it is not done at all. State custom gives a right of veto over county law to any state representative from that county. Jefferson County has 20 such representatives, all of whom have to agree to any decision.

County officials often have no idea what the law actually is. Any legal action has to accord with two sets of local laws, both passed by the state legislature in Montgomery. The first, state law, is at least codified, so you can look up the relevant legislation. The second set, applying to individual counties, is published,

uncodified, in separate annual editions. A law could be in any of 200 different volumes. One county found it was inadvertently collecting a tax for which its authority had expired years before. Jim Williams of the Public Affairs Research Council of Alabama says that the constitution destroys democratic accountability at the local level. This was, of course, the point.

The second area of incoherence has to do with taxes. The constitution not only decides what taxes may be raised, but who gets them. Other states earmark taxes as well, but Alabama outdoes them all, designating no less than 89% of its revenues for specific purposes. All the state's personal income and corporate tax goes to education. So does 96% of the public utilities tax. The fuel tax is earmarked for highways. And so the list goes on.

Predictably, this has made fiscal policy far too rigid. But earmarking has also given recipients of taxes a vested interest in the status quo, and made them even more influential than they would be anyway. For example, because so many taxes go to education, the head of the teachers' union, Paul Hubbert, has a huge influence on the state legislature. He had to be consulted even over tax relief for Mercedes-Benz, because the incentives offered to the firm reduced the corporation tax receipts his members rely upon.

Montgomery's war

The odd thing about this mess is how many defenders it has. Some beneficiaries are obvious. Large farmers and timber-growers pay a pittance for tax on their land (if the Alabama land tax were trebled, it would still be the lowest in the country). But there are also plenty of interest groups who like bits of it. Teachers, for instance, hate the fact that Alabama spends so little on schools, but like earmarked taxes. State legislators dislike spending fully half their time on local affairs, but they like lording it over the counties. Of Alabama's power-brokers, only the county commissioners are clearly hobbled by the system.

In a set-up like this, reform cannot come from the top. Mr Siegelman is the latest in a long line of governors who have attempted (so far unsuccessfully) to introduce a new constitution: Emmet O'Neal complained in 1915 that the document made it impossible to govern the state. But now, for the first time, there is grass-roots support. Bailey Thomson, a professor at the University of Alabama, has set up Alabama Citizens for Constitutional Reform, which has held public meetings all over the state. Almost all Alabama's newspapers support change. According to the Capital Survey Research Centre, 56% of Alabamians say a new constitution is needed to solve the state's problems.

More importantly, not all the interest groups are now opposed to change. Mr Hubbert's teachers' union wants reform, as do some of the multinational companies (like Honda, Boeing and Toyota) who have followed Mercedes into the state. The three leading candidates for this year's governor's race all back reform, so the issue will remain on the agenda even if the House of Representatives turns down a referendum.

At the moment, the opponents of reform in Montgomery probably hold the edge. But 51% of Alabamians say they would be less likely to vote for a candidate who opposes a new constitution. If that is really true, then against all the odds, and after a mere 100 years, Alabama might one day get a constitution that will not need amending 50 times a year.

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The nuclear-posture review

What's new?

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The Pentagon's nuclear policy largely represents continuity, not change

JUST a bit of “prudent” planning, as the secretary of state, Colin Powell, would have it? Or a striking new departure in America's nuclear philosophy, as some supporters as well as critics insist? The confidential details of the administration's nuclear-posture review, sent by the Department of Defence to Congress in January, but extensively leaked to the press in the past week, have caused a stir. The *New York Times*, for one, compared the new plan to the action of a rogue state.

George Bush had been doing rather well at arms control. His promise last year to cut America's nuclear-weapons stockpile to the lowest number “consistent with our national security needs” had helped to mollify critics of his missile-defence plans. Russia's Vladimir Putin was sufficiently persuaded to describe Mr Bush's decision to withdraw from the Anti-Ballistic Missile treaty as merely a “mistake”, and to take up the offer of deep cuts in nuclear weapons. They should come down from around 6,000 deployed warheads on each side today to some 2,000 in future.

Now the Pentagon has apparently upset everybody in two ways. First, it has expanded its official list of potential nuclear targets to include Iran, Iraq, North Korea, Syria and Libya alongside China and Russia. And it is also contemplating developing “limited” nuclear weapons for tactical use, such as blowing up underground stores of chemical weapons.

In fact, the notion that America should think about the threats from countries illicitly seeking weapons of mass destruction is not new. Five years ago, the Clinton administration began reducing the number of weapons earmarked for use against targets in Russia, increasing those tagged for any future stand-off with China, say, over Taiwan. It also improved intelligence about covert nuclear, chemical and biological weapons programmes in a range of other countries, so that these too could be targeted, if need be, in a matter of hours.

Arguably, the new stance is even more ancient. In 1991 Mr Bush's father warned Saddam Hussein that if he used chemical or biological weapons during the Gulf war, he could expect the “strongest possible” retaliation. And in 1993, as the crisis over North Korea's plutonium production intensified, Bill Clinton said that an attack by North Korea on South Korea would be treated as an attack on America, and he declined to rule out a pre-emptive strike against North Korea's nuclear facilities.

Condoleezza Rice, the national security adviser, has argued that the “new” leaked plan is really just updating a long-standing policy. The way to deter adversaries from using weapons of mass destruction “is to be clear that it would be met with a devastating response.” Iran, Iraq and North Korea are suspected of either having or trying to acquire nuclear and other sorts of weapons. Syria and Libya have chemical or biological ones. General Richard Myers, chairman of the Joint Chiefs of Staff, added that the Defence Department's review merely preserves for the president the options he might need “in case this country or our friends and allies were attacked with weapons of mass destruction, be they nuclear, biological, chemical or, for that matter, high explosives.”

But are those options changing? Some weapons designers have long lobbied for new nuclear warheads, with lower yield and less fallout, to be used against deeply buried, hardened targets. Last month, before the full contents of the nuclear review were known, General John Gordon, head of the National Nuclear Security Administration, told Congress that a three-year study had been ordered into developing just such a nuclear-tipped bunker-buster and was looking at two possible designs. The study would include component and sub-assembly tests and simulations.

Will the designers eventually proceed to explosive testing of such weapons? That will be a decision for Mr

Bush. Some weapons scientists argue that, even if needed, such weapons could be built using past designs, without further testing. At the time the nuclear review first went to Congress two months ago, the defence secretary, Donald Rumsfeld, insisted that there were no plans to resume testing, even though the document called for preparations to be made so that it could resume in less than the two-to-three years it would take now.

At a time when Dick Cheney is touring Europe and the Middle East to stiffen spines over Iraq's defiance of UN disarmament resolutions, the administration seems relaxed that its secret nuclear thinking has received a more public airing. In any case, say officials, it is a “posture, not a plan”. That distinction has been lost on some already. This week North Korea gave warning that if American “nuclear fanatics” launched a nuclear strike, this “would mean their ruin in nuclear disaster”.

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The Massachusetts governor's race

The torch-bearer

Mar 14th 2002 | BOSTON
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Will the glow he brings from the Olympics stay alight for Mitt Romney?

WHO wouldn't be flattered by the way his friends in Massachusetts have fluttered their eyelashes at Mitt Romney? As the Olympic flame burned over Salt Lake City, the overtures started to come from the east: would the chairman of the 2002 Winter Olympics please return to his home state and run for governor? Many Republicans in Massachusetts think that squeaky-clean Mr Romney is their only hope. Some of them have launched a website, draftMitt.com, to lure in the 54-year-old; others are lining up the 500 convention delegates needed to ensure him a place on the primary ballot in September.

The current betting is that Mr Romney will announce his candidacy once the closing ceremony of the Paralympics on March 16th is out of the way. That would mean revoking an earlier pledge not to challenge the current Republican governor, Jane Swift. But Mr Romney has dropped some hard-to-misinterpret hints, paying for his own state poll and sending a letter to potential supporters, saying they might have to work hard on his behalf. In the meantime, he has enjoyed a bonanza of free publicity and buzz.

This beg-me campaign is a savvy move for a man who is, in some ways, an odd fit for Massachusetts. He is a Mormon and a Republican in a heavily Roman Catholic and Democratic state. He is a venture capitalist who has never held office: in an earlier stab at politics, in 1994, he challenged Senator Ted Kennedy, spent $4m of his own money, and got clobbered. On the other hand, he is rich and good-looking, with a political pedigree (his father was once governor of Michigan), and his successful stewardship of the once scandal-spattered Salt Lake City games has whetted his appetite for the limelight.

Can he win? The possible Democratic contenders are a pretty uninspiring lot. Tom Birmingham, president of the state's Senate, has a respectable record but no real statewide clout. Shannon O'Brien, the competent state treasurer, has similarly failed to grip the voters, especially the women. Steve Grossman, an ex-chairman of the Democratic National Committee, and Warren Tolman, a former state senator, have barely registered with the man in the street. Robert Reich, a former labour secretary in Washington, has the support of Hollywood liberals, but Massachusetts voters seem unimpressed by that.

But all this would presume that Mr Romney could oust Ms Swift from the Republican nomination. A former lieutenant-governor, she inherited the state's top job when its holder left to take up an ambassadorship. She wants the post in her own right, and refuses to step aside for Mr Romney. She has called his possible candidacy an act of aggression by “powerful men”, and suggested that a fight between Mr Romney and herself would damage the Republican Party. But a budget crisis is not helping her, and “Queen Jane” is still unpopular with voters because of earlier episodes of high-handed behaviour.

Since the Democrats control the state legislature, the Republicans badly need to hold on to the governor's seat. They can cheer themselves with the thought that Massachusetts voters are quirkier than most people realise. In the 2000 presidential primaries, a lot of Democrats changed their party registration so that they could vote for a Republican, John McCain. Mr Romney may have something of the McCain allure. Jim Burke, a leader of draftMitt.com, points to the growing number of inquiries from Democrats, and solid support from delegates to the upcoming Republican state convention on April 6th.

But if he does run, Mr Romney will have a bumpy ride. In Salt Lake City, the ailing Olympic establishment gave him a free hand. In Massachusetts, he must win two bruising electoral contests. If nothing else, he will have to make up his mind about abortion. He was dubbed pro-choice in 1994, but recanted when he thought of going into politics in conservative Utah. Which prompts a question. Why abandon Utah, where there is a governor's race in 2004? One answer is that Mr Romney might be a little too liberal for the

state. But rumour also has it that the ambitious Mr Romney concluded that a Utah politician could never become president.

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Call girls and hackers

But who's answering the phone?

Mar 14th 2002 | LAS VEGAS
From The Economist print edition

Technology gets into bed with the oldest profession

LAS VEGAS, where every born loser is told he is a potential winner, has always had a way with words. Prostitution is technically illegal in the city. But a private “dance” in one's hotel room is not—even if that's just a euphemism for what a “Hot Nude Blonde” does to cheer up a visiting conventioneer.

How exactly these private dancers know which hotel rooms to visit, though, has become a thorny question. On March 14th, as *The Economist* went to press, a hearing began at the Nevada Public Utilities Commission to investigate a complaint brought by Eddie Munoz against Central Telephone, a local subsidiary of Sprint. Mr Munoz operates an in-room “adult entertainment” service. He also publishes the *Las Vegas Informer*, a free paper that lists telephone numbers for his dancing troupe.

He alleges that rival operators have hacked into the Las Vegas telephone network and systematically diverted calls made from hotel rooms to the numbers listed in the *Informer* to their own services. These rivals then send out their own entertainers to do the dancing—and to collect the fees that should rightfully be his. Mr Munoz says that in the heady days of the early 1990s he was making $20,000 a month from his cut of the money earned by his dancers.

Telephone firms habitually deny that hackers can break in. Sprint maintains that it “has neither found nor been presented with any evidence to date that calls have been diverted”. Others are not so sure. Hilda Brauer, who protested that call-poachers had driven her “Sexy Girls” service out of business, brought a lawsuit against Sprint and her rivals in 1998, but dropped it when her money ran out. In 1998 the FBI arrested six gangsters who were scouring Las Vegas to recruit a telephone hacker they believed was working for a successful call-girl service (although nobody found him).

Mr Munoz has now hired Kevin Mitnick, a hacker who boasted last year to *SecurityFocus*, an online technology journal, that he used to break into Las Vegas switching systems. Mr Mitnick has diverted Mr Munoz's telephone lines to an office in Los Angeles; a temp there relays the requests for dancers back to Mr Munoz in Las Vegas. The aim is to cut Sprint out of the loop.

The hearings may shed more light on how the world's oldest profession has taken phone-hacking in its well-practised stride. And then, no doubt, as the fuss dies down, it will discreetly dim the lights and get on with business as usual.

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The economy

Too much too late

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Was George Bush wise to sign the economic-stimulus bill?

TALK about bad timing. After months of argumentative delay, Congress finally buried its differences last week and produced an economic-stimulus bill. George Bush wasted no time: the president signed the bill on air, during his weekly radio address on March 9th. Yet this sudden outbreak of unanimity has coincided with signs that the recovery is gathering pace. Having presided over the disappearance (temporary, he insists) of the enormous budget surplus he inherited, Mr Bush has now committed the government to an extra $42 billion in spending and tax cuts over the next ten years—just when the need for extra stimulus is disappearing.

In practice, Mr Bush had little choice but to sign. After all, he had repeatedly nagged Congress to settle party differences and come up with an agreed package: before Thanksgiving, he said first, and then, as that deadline passed, before Christmas. But the old-fashioned party bickering continued, with the Democrats wanting more help for poorer people, while the Republicans (including Mr Bush) pushed for tax breaks, mainly for business. Broadly speaking, the Democrats won.

Will it help? Alas, the main thing going for the new bill is that it will be less unhelpful to the economy and the government's finances than the far bigger stimulus originally envisaged by the Senate (and endorsed by Mr Bush). The net effect over ten years of that plan would have been closer to $100 billion.

The principal objection to a stimulus package now is that it has come at the wrong time. The economy is not out of the woods yet, but a recovery does seem to be under way. Indeed, if the advance GDP figures for the last quarter of last year, which showed the economy expanding after only one quarter of contraction, are confirmed by the revision due at the end of the month, some economists are likely to claim that the economy was never properly in recession. The labour-market figures for February, published on March 8th, showed a further slight fall in the unemployment rate, to 5.5%. So far, it looks as if the rate peaked last December at 5.8%—lower than many forecasters expected.

Even Alan Greenspan seems to be growing more optimistic, almost by the day. When the Fed chairman delivered his monetary policy report to the House at the end of February, he was noticeably cautious about both the speed and likely strength of the upturn. When he delivered the same report to the Senate on March 7th, the change in tone was clear, with a new reference to “encouraging signs in recent days”.

Idle boosting

Demand has already been given two fairly hefty boosts from Washington: Mr Bush's ten-year tax-cut plan, the initial stage of which was implemented last summer; and the surge in government in the aftermath of September 11th. Mr Greenspan has also done his bit with 11 interest-rate cuts since the beginning of January 2000.

There is not much danger of the stimulus bill causing the economy to overheat. But the giveaways will surely postpone the time when the public finances come back into balance. And it will make the restoration of fiscal discipline even more difficult.

One component in the package does seem quite sensible—an extension, of up to 13 weeks, of unemployment benefits (which currently expire after 26 weeks). That should help those who lose their jobs when the labour market is still sluggish. On the other hand, although those corporate tax breaks have been scaled down, they are still there. The most dangerous may be a provision for extra tax breaks for businesses that undertake investment in the three-year period from September 11th last year. It runs

for much longer than could ever be justified as a temporary stimulus. Coincidentally, it is due to expire just a couple of months before Mr Bush goes to the voters hoping for re-election to a second term.

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Famous buildings

Frank Lloyd Wrong?

Mar 14th 2002 | MILL RUN, PENNSYLVANIA
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An aptly named masterpiece reopens

AP

Well, they said, get close to the water

BACK in 1991 the American Institute of Architects deemed Fallingwater, a country home built by Frank Lloyd Wright in 1936, the best building ever designed by an American. So on March 19th architects across the land can breathe a sigh of relief. For on that day Fallingwater is reopening to the public, after, well, a bit of a redesign. Bizarrely, the building seems to have been saved from collapse only because a graduate engineering student noticed that its name was not just evocative, but, structurally speaking, prophetic.

Fallingwater is a magnificent house in a spectacular setting some 70 miles southeast of Pittsburgh. It attracts around 130,000 visitors a year. A daring design, it features a number of dramatic terraces which jut out like enormous diving boards over a waterfall. There have long been obvious sags and cracks in the terraces. But these were put down to the experimental nature of the strikingly cantilevered house, rather than anything fundamentally wrong.

To Wright's chagrin, the engineers who built the house, backed by the house's owner, a Pittsburgh retailing magnate, surreptitiously inserted more reinforcing steel bars into Fallingwater's concrete than Wright had called for. The addition of the extra steel, it was assumed until recently, explained the terraces' dips. In fact, this extra reinforcement probably saved the house from collapsing years ago.

In 1995 a young engineering student from the University of Virginia, John Paul Huguley, rang Fallingwater's staff to explain that, according to his calculations, the building was unsound. “When I heard the news,” admits Lynda Waggoner, Fallingwater's director, “I didn't believe it.” But a report by Robert Silman, a New York city-based engineer, backed the student's findings. The building's structural supports were continuing to bend. And its concrete had been moving for 60 years—at least 40 years longer than it should have been. In 1995 visitors were barred from the more sensitive areas of Fallingwater until temporary shoring could be installed. In April 1999, after a public debate, a forum of architects and historians sanctioned a more permanent redesign.

Last November Mr Silman's team began to install supporting cables underneath the flagstone floor in the living room and under its adjoining terraces. Such structural work accounts for around a third of the $11.5m upgrade, with the rest going on new sewers and landscaping. Parts of the house will still sag noticeably, but they will be stable. Raising them too much would have resulted in serious cracking.

Is Wright any less of a genius for all this? Opponents of modern architecture may scoff that Sir Christopher Wren and Filippo Brunelleschi tended to make buildings that lasted a little longer than 60 years. Yet Mr Stillman, for one, defends his countryman. Standing in Fallingwater's temporarily denuded living room, he insists that Wright was “a visionary on the cutting edge. You could expect that there might be some problems.”

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Lexington

In praise of hucksters

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Celebrity professors are a good thing. Really

FEW species have as many natural enemies as the celebrity professor. Other academics envy their money and fame; journalists dislike their cleverer-than-thou airs; and everybody hates their determination to have it all—the security of academic tenure and the glitz of media stardom. So these are happy days for the rest of us. Plagiarism, lying, waffle-mongering: hardly a week goes by without some academic celebrity or other biting the dust, his reputation in tatters.

Stephen Ambrose was arguably America's favourite historian, a man who wrote bestsellers faster than most people read them. An inspirer of Hollywood blockbusters, he can also claim credit for two of the best presidential biographies around, on Eisenhower and Nixon. But it now turns out that five of his books contain extensive “borrowings” from other historians. (“I'm not writing a PhD”, he has offered as an explanation—an unsurprising claim, as he would not get one for somebody else's work.)

Mr Ambrose must be grateful that attention has shifted to another cutter and paster, Doris Kearns Goodwin. She was a fixture on American television, always ready with a telling anecdote on, say, Lyndon Johnson (whom she knew) or Abraham Lincoln (the subject of her next blockbuster). Her handling of the plagiarism charges against her has arguably been worse than the charges themselves. In the late 1980s she quietly mollified one of her chief victims, paying her some money. Now she explains her behaviour by the fact that she relied on handwritten notes—something other historians have managed to do without such dire consequences. Amazingly, Ms Goodwin remains on Harvard's board of overseers, despite the fact that she committed sins that might get an undergraduate expelled.

The hunt is now on for the next serial plagiarist. Meanwhile, other charges are also being hurled at celebrity professors. Take compulsive lying. Joseph Ellis, the author of a first-rate study of the Founding Fathers, told his students that he had fought in Vietnam when the closest he came to combat was sitting in a university library. Or take hypocrisy. Paul Krugman, a professor of economics at Princeton University, used his column in the *New York Times* to savage the Bush administration for its links to Enron, when the fearless professor had himself received $37,500 from the energy firm. Or take general flatulence. A squabble between Larry Summers, Harvard's combative new president, and Cornel West, a much TVed professor of black studies, alerted the world to the latter's recent work, which turns out to be a mixture of post-structuralist mumbo jumbo, religious rhetoric and rap music. More should be expected from one of only 17 people to hold the exalted title of “university professor” at Harvard.

Is this a case of a few bad apples? In ″Public Intellectuals″ (Harvard University Press) Richard Posner, a federal judge, argues that it is the whole barrel. Although the book looks at all sorts of thinkers (not just whorish academics), Mr Posner suggests that celebrity professors owe their influence to a fraud. They build their reputations tilling some minuscule academic field, and then pontificate on “Charlie Rose” about everything under the sun.

All true. Yet the judge, himself a leading intellectual for hire, is a little too harsh. Each celebrity professor may be a nauseous beast. Yet there are two big arguments in favour of what they do. Most obviously, they help to circulate ideas. They give educated laypeople a chance to get their information from real authorities rather than mere journalists. They give universities a chance to pay back some of their debt to the societies that nurture them. The fact that America's bestseller lists feature works written by academic authorities amongst the ghost-written memoirs and celebrity suck-up jobs should be cause for rejoicing.

The second point is that they help to keep talented people in academia. Some noble souls will always be willing to put up with low salaries in exchange for a chance to pursue the truth: it is hard to imagine John

Rawls hustling for a bit of extra cash. But others are inevitably attracted to money and bright lights. A bit of moonlighting is a relatively easy way for universities to keep some of their smarter faculty happy.

What about the costs of this moonlighting? Don't academic superstars short-change their universities? Well, a bit. Yet the ostentatiously ludicrous Mr West has undoubtedly helped to attract bright students to Harvard in the same way that the rather more serious Arthur Schlesinger and John Kenneth Galbraith once did. Surveys suggest that academics who engage in outside activities are actually more likely to do their share of teaching than those who don't. Besides, the link between popular success and lower academic standards is not sharp. Mr Ambrose and Ms Goodwin both started “borrowing” other people's work before they hit the big time.

Fundamentally, the besetting sin of American academia is not celebrity professors but hyper-specialisation. Academics have a habit of crawling along the frontiers of knowledge with a magnifying glass, blind to the wide vistas opening up before them, and often reducing the most engaging subjects to tedious debates about methodology. By looking at the big picture, populists restore the excitement of intellectual life. Who has done more for literary studies in the United States: Harold Bloom or the thousands of post-structuralists and their insufferable conferences? Who has done more to advance the understanding of American business: Peter Drucker, who has never been employed by an Ivy League university, or the entire list of contributors to the *Journal of Supply Chain Management*?

And the market does work. The same media machine that turned Mr Ambrose and Ms Goodwin into superstars is now trashing their reputations. The honest majority of celebrity professors improve the world by spreading the fruits of academic research. The dishonest minority pay for their sins with the loss of their cherished reputations.

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Politics in Colombia

A democracy, but of many warts

Mar 14th 2002 | BOGOTA
From The Economist print edition

An election for Congress confirms war-torn Colombia's shift to the right—and the need for political reform

Get article background

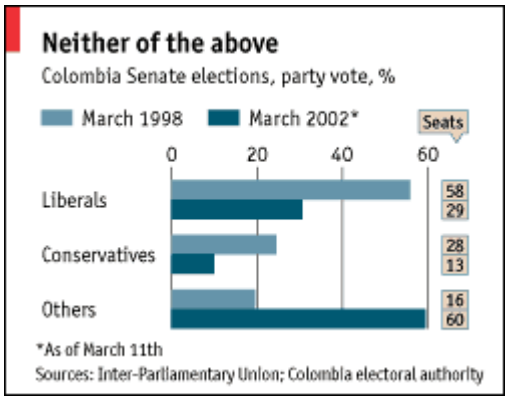
EPA

SEVENTEEN months ago, General Jaime Ernesto Canal resigned from Colombia's army in protest at government orders to back off when his troops were closing in on a band of left-wing guerrillas holding some 50 hostages. “This uniform is still impregnated with the soil of the country I love, it still carries the sweat from military operations,” he said as he swapped it for civilian clothes. That sense of military honour strikes a chord with Colombians' current mood. Despite launching his campaign only six weeks ago, in a legislative election on March 10th General Canal won more votes than any other candidate for the lower house of Congress.

Held little more than a fortnight after President Andres Pastrana called off three years of abortive peace talks with the FARC guerrillas, and as the United States is considering whether to broaden its military aid to Colombia, the election said much about the state of the country's embattled democracy. On the one hand, the results seemed to confirm the voters' sharp swing to the right, and their backing for tougher military action against the 18,000-strong FARC. On the other hand, they showed a desire for cleaner politics, and disillusion with the two main parties, the Liberals and Conservatives, which have governed Colombia for most of the past century and a half.

The vote confirmed the likelihood that Alvaro Uribe, an independent Liberal who favours a hard line against the FARC, will easily win the presidential election due on May 26th. Candidates supporting Mr Uribe, such as General Canal, did well, taking 29 out of 102 seats in the Senate, for example. Other members of the new Congress are expected to switch to Mr Uribe.

By contrast, the official Liberals, and Mr Pastrana's Conservatives, both saw their vote slump (see chart). In what seemed like a condemnation of Mr Pastrana's failed peace efforts, as well as the sluggish economy, the Conservatives did especially badly, prompting the party's presidential hopeful, Juan Camilo Restrepo, to withdraw his candidacy this week. But not everyone shares the new, harsher, mood. Antonio Navarro, a congressman and former guerrilla leader who made peace a dozen years ago, was elected to the Senate with the second-highest vote. Mr Navarro is one of several victorious leftish independents who favour a negotiated solution to the country's conflicts.



The FARC has responded to the breakdown of the talks with attacks against the electricity network, bridges and water supplies. With 150,000 police and troops protecting polling stations, the guerrillas disrupted voting only in a few remote areas. But intimidation may have played a part in restricting the turnout. The FARC had kidnapped five legislators and a presidential candidate before the vote. The right-wing paramilitary vigilantes of the United Self-Defence Forces of Colombia (AUC) also claimed to have influenced the election. In a message on their website, their military commander boasted that their sympathisers would make up more than 35% of the new Congress—a claim that is both disturbing and hard to verify.

Loathing as well as fear may have kept turnout to 42%, down from 45% in the congressional election of 1998 (and 59% in the presidential vote of that year). As the traditional parties have become more fissiparious, Congress has come to be seen as a centre of shady deals. Under an electoral system in which each party runs multiple lists of candidates who compete against each other, lawmakers can buy their way to Congress with a few thousand votes. To underline the need for reform, the prosecutor-general published the names of 102 candidates (out of a total of more than 1,000) who either have criminal convictions, or are under investigation. Their crimes include arms or drug trafficking, and embezzlement.

Mr Pastrana tried and failed to reform politics. Mr Uribe, if elected, might prove more determined. He wants a referendum on setting up a single-chamber legislature of 150 members, cutting the current total by over 100. Mr Navarro supports a simpler electoral system, and wants a ban on congressional slush funds. Others want to cap campaign financing. Many analysts believe that Congress is incapable of reforming itself—but Mr Pastrana found that he could not reform it from above without imperilling his legislative majority.

Reforming a discredited political system is important if public support for what many believe will be a long and arduous war against the guerrillas is not to flag quickly. Colombia has a long history of bloody but indecisive internal conflict. Elisabeth Ungar, a political scientist at the Andes University in Bogota, says that if Mr Uribe does win the presidency, his congressional support could prove fickle. Neither has disillusionment with the traditional parties coalesced into a coherent movement for change: Mr Uribe is still a Liberal, albeit a dissident one. But muffled and discordant though their tones may be, the voters have spoken.

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Politics in Brazil

Sarney's stash

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From The Economist print edition

A police raid has boosted the president's election candidate

THE presidential election in October has not lost its potential to surprise. Just as few had foreseen the opinion-poll surge that had made Roseana Sarney of the conservative Liberal Front Party (PFL) look a winner, so nobody had predicted that she would stumble so spectacularly. Earlier this month, police raided the office of Lunus, a consultancy business owned by Ms Sarney and her husband, Jorge Murad, and found 1.3m *reais* ($570,000) in bundles of banknotes. With no clear answers as to the money's origins, the damage to Ms Sarney's candidacy has been immediate, and perhaps fatal.

Ms Sarney, the governor of the north-eastern state of Maranhao, was furious when pictures of the banknotes leaked to the media. She claims the raid was a plot orchestrated by President Fernando Henrique Cardoso's Brazilian Social Democratic Party (PSDB) and its presidential candidate, Jose Serra. She may be right: the commander of the federal police has recently joined the party.

Ms Sarney has successfully demanded that the PFL should leave Mr Cardoso's coalition government. That has cast doubt over how much more legislation the government can pass before Mr Cardoso's term ends in December, and over whether the coalition will eventually unite around a single candidate. Four ministers have resigned, and it is not clear whether in Congress the PFL will back or block the renewal of a tax on financial transactions, the most urgent item on Mr Cardoso's agenda. The president may struggle to win approval for further tax reforms. And the split in the coalition clouds the prospects of several measures awaiting the Senate's approval, such as bills to liberalise the archaic labour laws, to speed up the sluggish courts, and to allow foreign investment in the media. But the government should be able to approve reforms to policing and prison sentencing with opposition backing. And since the PFL, or its forerunners, have backed successive governments since 1964, its departure may be temporary.

Indeed, the Lunus affair seemed to damage Ms Sarney more than the government. The raid was part of an investigation into huge frauds against Sudam, a development agency abolished by Mr Cardoso last year. The police found some documents suggesting links between Lunus and one alleged fraud, and others implying that some of the cash may have come from a building company that had won a big contract from Ms Sarney's administration. The candidate's response was unconvincing: she and her aides issued a string of implausible and contradictory statements about why the firm had held so much cash. Then, on March 12th, Mr Murad said it had come from donations to his wife's campaign (if so, the failure to declare them broke election law). He resigned from his job in her government.

Political analysts say that the image of stacks of banknotes is now indelibly imprinted on voters' minds. According to Datafolha, a polling company, support for Ms Sarney has plunged by eight percentage points to 15%, whereas that for Mr Serra has surged by seven points to 17%. This poll found that in a run-off Mr Serra might scrape through against the front-runner, Luiz Inacio Lula da Silva of the left-wing Workers' Party (PT), whose support has fallen from 31% to 25% in recent months.

The presidential campaign has also been confused by a second surprise. Last month, the Electoral Tribunal ruled that parties must maintain the same alliances at both national and state levels. Until now, Mr Cardoso's coalition has comprised four parties that are rivals in some states. Similarly, Mr da Silva wants a coalition with the Liberal Party, a small centre-right group, even though it is at daggers drawn with the PT in some states.

The ruling makes it harder for small-party candidates to build durable alliances. That could hurt Anthony Garotinho, the governor of Rio de Janeiro and otherwise a potential beneficiary of Ms Sarney's woes. But such is the opportunism of Brazilian parties, any brief upward blip in a candidate's ratings may set off a stampede of support.

Unless a way is found to overturn the ruling, all parties must now choose between national pacts (which offer them a shot at the presidency or vice-presidency, or ministerial jobs in a future coalition government) and local pacts (which boost their chances of winning congressional seats and state governorships). The parties will now watch the next few polls to help them decide. If these confirm Mr Serra's rise and Ms Sarney's fall, Mr Cardoso may be able to regroup most of his coalition in a national alliance around Mr Serra. If Ms Sarney's ratings collapse, even the PFL may scurry back to the fold.

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Energy in Bolivia and Peru

Pipe dreams

Mar 14th 2002 | LA PAZ AND LIMA
From The Economist print edition

The race is on to export natural gas to California

Get article background

IN THE province of Tarija stands a range of forested razor-backed hills, resembling frozen ripples in the earth's crust. About 6km (four miles) beneath their surface lie huge reservoirs of natural gas, discovered as a result of the investment of more than $2.5 billion in Bolivia's oil and gas industry since its privatisation in 1997. President Jorge Quiroga believes that the gas can transform South America's poorest country. But in neighbouring Peru the government has similar ideas. And it is not clear that both will find buyers.

Bolivia started exporting small quantities of gas to Argentina in the 1970s. But in 1999, a 1,800 km pipeline from Santa Cruz province to Sao Paulo, Brazil's industrial capital, was completed. When Brazil agreed on the project in 1996, its demand for gas was unclear and Bolivia's reserves were insufficient even for it to fulfil the 20-year contract. Now, Brazil's demand for gas has grown, so it would like to double the volumes going along the pipeline by 2004. And Bolivia's reserves have expanded tenfold since 1996.

As a result, Bolivia is seeking new customers farther afield. A consortium including Spain's Repsol YPF, Britain's BG and Pan-American Energy, a BP subsidiary, are pushing a plan to pipe gas from their Margarita field in Tarija to the Pacific coast, and thence to Mexico and California. With 13 trillion cubic feet of gas, Margarita is similar in size to Peru's huge, and still unexploited, Camisea gas field. The Bolivian scheme calls for a large cooling plant at a Pacific port, to liquefy the gas for pumping aboard tanker ships. The project would cost up to $6 billion, according to industry estimates. But the companies say that their studies show it to be economic.

One problem is which port to use. Bolivia lost its seaboard to Chile in a 19th-century war. Since the 1970s, the two countries have not had full diplomatic relations, because of Bolivia's claim for an outlet to the sea. Peru has been quick to offer the use of its territory for the pipeline, partly because its government believes that would boost the chances of exporting gas from Camisea. But the Chilean route is shorter. And Chile's investment-grade credit rating should make it easier to raise finance for the gas terminal.

A decision on the route may be announced this month. The consortium says that a decision on whether or not to go ahead with the project could follow next year. If all goes well, by 2007 Bolivia's oil and gas exports could amount to about $1 billion a year, and government revenues from the industry could rise to $480m a year—or five times more than the annual debt relief currently being offered by rich countries. If this manna arrives, the government's main problem will be how to spend the money wisely.

That is a problem Peru might like to have. Shell discovered the Camisea field nearly 20 years ago. But the gas remains firmly in the ground. Camisea's development (a $3 billion deal, said Shell) was blocked first by political opposition and guerrilla violence, then by failure to agree on guaranteed prices, and finally hindered by Bolivia stepping in to supply the big export market, in Brazil.

Now a consortium led by Pluspetrol, an Argentine company, has at last started work at Camisea, though on a more modest $1.4 billion project. Barges are delivering drilling equipment and pipes. Pluspetrol says

it expects to have drilled the first well by July. It hopes to get gas to the Pacific coast via a 700km pipeline (to be built by a separate consortium) by the end of 2003.

Peru's gas industry has “a second chance, but time is of the essence”, says one of the consortium's managers. The group hopes that once the gas arrives in Lima, demand will grow. It is also looking at exporting liquefied gas to Mexico and California. The pipeline consortium has agreed to spend an extra $43m to widen the first section, allowing for exports.

With its pipeline plans advanced, and the route decided, the Peruvian group reckons it has a year's lead over its Bolivian rivals. And at around $2 billion, its export project is the cheaper.

But two obstacles remain. Financing has not been nailed down. And environmentalists say that gas extraction and pipeline work will cut a swathe through the rainforests of the lower Urubamba valley, encouraging migrants to the lands of the indigenous peoples who live there. The consortia say they will not build any roads to the exploration area and will reforest the pipeline route. And the government (though not yet lenders) has approved their plans. In the end, success will go to whichever country secures long-term orders. Unless they join forces.

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Drugs in Mexico

The end of the Arellanos

Mar 14th 2002 | MEXICO CITY
From The Economist print edition

The police, and the gangsters, are modernising

Reuters

Vicious—and archaic

FOR more than a decade, the Arellano Felix clan imposed a reign of terror on Tijuana, to protect its hold over the export of cocaine and other drugs to California. So the sudden elimination of the clan's two leading figures is a rare triumph for Mexico's police forces. But their downfall may also mean that in the drug industry, as in politics, Mexico is becoming more modern and pluralist.

Benjamin Arellano Felix, the baby-faced chief executive of the family drug firm and the “number-one target” of the United States' Drug Enforcement Administration, was arrested in Puebla, south of Mexico city, on March 9th. In the past, such raids were often thwarted by tip-offs. Until Vicente Fox defeated the long-ruling Institutional Revolutionary Party in 2000, police chiefs and even army generals were routinely paid off by drug traffickers. But this time the surprise was total. A commando unit swooped on the suburban house where Mr Arellano had been lying low for months, and seized him without a shot being fired. Officials later confirmed that his younger brother, Ramon, the clan's enforcer, was among several men killed in a gun battle with police in Mazatlan, a Pacific resort, last month. Ramon was believed to be behind more than 300 killings, including those of judges, prosecutors and, probably, a Roman Catholic cardinal.

The demise of the Arellanos is a result of the greater trust, and therefore closer intelligence co-operation, between American and Mexican officials. That trust has survived a ruling by Mexico's Supreme Court that bans extradition of traffickers to the United States, if they are likely to face a life sentence. The break-up of the Arellano gang will strengthen the arguments of Mr Fox, who will play host to Mr Bush next week, that Mexico deserves to be treated as a loyal ally on matters such as migration and border security.

But the drug industry in Mexico will survive. A bloody turf war over the Arellanos' business may have already started: it is said that Ramon was killed while on a mission to kill a leader of the Sinaloa drug mob. There are signs, too, that the industry has become more decentralised, with many smaller firms. They are harder to detect. In Colombia, nobody talks about the Medellin and Cali “cartels” anymore, but the drugs keep coming.

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China

How cooked are the books?

Mar 14th 2002 | BEIJING
From The Economist print edition

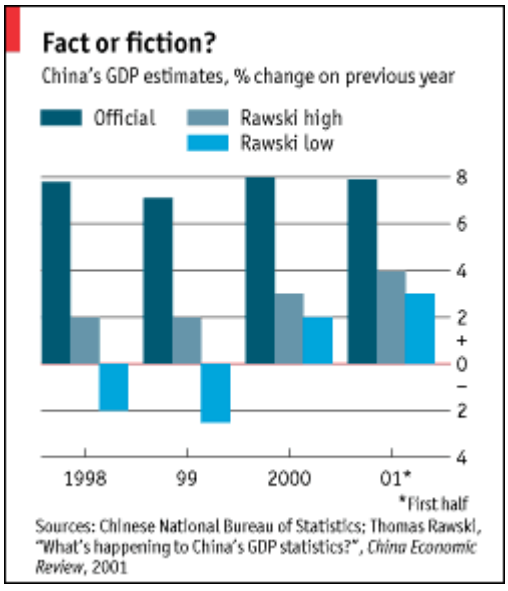
China's parliament was this week set to endorse the government's plan to achieve 7% economic growth this year. But how will anyone know if the target is reached?

Get article background

ADDING up the value of goods and services produced in an economy is hard enough anywhere. In China, the problem is magnified by the country's size, the rapidly shifting make-up of its quasi-market system and the widespread tendency among officials to lie in order to boost their political fortunes. Last month the government said that China's GDP had grown by 7.3% last year, making it the world's fastest-growing large economy. But growth figures declared by individual provinces told a different story. Only one, Yunnan, said its product has grown more slowly than the national rate. Taken together, the provincial figures would produce a national growth rate nearly two points higher than the one officially declared.

Fortunately, the central government does not rely entirely on dodgy provincial statistics to arrive at its national growth-rate figure. Instead, the National Bureau of Statistics conducts sample surveys and uses these to estimate the country's GDP and thence the growth rate. The result has invariably been at odds with the provincial figures. In 1995, the GDP growth rate suggested by provincial data was three percentage points higher than the figure of 10.5% produced by sample surveys.

But are the results produced by sample surveys really much better? Opinions vary. The government insists its figures for GDP growth are reliable. Some analysts such as Pu Yonghao of Nomura International in Hong Kong believe they are indeed more or less accurate.



In China, few scholars have publicly attempted any detailed justification of alternative figures, partly because of the political sensitivity of challenging government claims. Some, like Song Guoqing, a senior economist at an independent think-tank, the Stock Exchange Executive Council, believe that last year's growth rate could have been as low as 5% or 6%. Outside China, however, some economists believe the official growth rate could be even more at odds with reality, because of such factors as a tendency to overvalue the stocks of unsold goods produced by state-owned factories or to underestimate inflation. Thomas Rawski of the University of Pittsburgh estimates that growth in 2001 may have been between 3% and 4%, or about half of the official figure.

In a paper published late last year, Mr Rawski says that the National Bureau of Statistics "lacks the capacity to collect data outside normal information channels", and its surveys are subject to interference from lower-level officials. In the first ten months of last year, the authorities uncovered more than 62,000 offences against the country's statistics law. In the minds of many officials, the gains from falsifying figures outweigh the risk of punishment.

The pressure to exaggerate statistics grew in the late 1990s as Chinese officials sought to pump up the economy to stave off the effects of the Asian slump. Last year China's prime minister, Zhu Rongji, tried to restore normality by stressing that the central government's GDP growth target was intended as a guideline rather than an obligatory goal. But it has proved difficult to get that message across to officials still steeped in the thinking of the old centrally-planned economy.

Mr Rawski believes that other Chinese statistics provide clues to the real rate of growth. In the three years between 1997 and 2000, for example, China's GDP officially grew by 24.7%. Yet energy consumption dropped by 12.8% in the same period. Mr Rawski argues that this cannot be adequately explained by more efficient energy consumption or the rapid growth of industries requiring less energy. He notes that periods of rapid economic growth in other Asian countries, as well as in China itself ten years ago, have coincided with increased energy use, high employment and rising consumer prices. Between 1997 and 2001, employment hardly grew at all, while prices fell more than 2%.

Another clue comes from the civil-aviation industry. Chinese airline passengers belong to the richest part of the population, whose incomes are rising faster than average. Passenger traffic should therefore grow faster than disposable income, a main component when calculating GDP based on national income. But Mr Rawski notes that, despite plunging ticket prices in 1998, passenger miles rose by only 2.2% on domestic routes between 1997 and 1998. In those years the economy was officially said to have grown by 8.8% and 7.8% respectively.

Other factors, however, might push the real GDP growth rate closer to the official one. Mao Yushi of the Unirule Institute of Economics in Beijing says he believes Zhejiang province in eastern China has been under-reporting its growth figures to conceal the rapid development of private enterprise in its economy. Mr Pu of Nomura says affluent provinces such as Guangdong in southern China may be under-reporting their growth to avoid having to pay more tax to the central government.

During its annual two-week session, which was due to end on March 15th, China's parliament has heard no public objections to the government's goal of 7% growth this year. Even if the figure is overstated by a couple of percentage points, growth will still be strong compared with most of Asia. But for those in pursuit of statistical truth, the coming year is unlikely to see much progress in China.

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Vietnam

Reluctant capitalists

Mar 14th 2002 | HANOI
From The Economist print edition

Reform is coming to a still-cautious Vietnam

EPA

Still stuck in second gear

UNTIL A FEW years ago, the citizens of Hanoi got around mainly by bicycle or the local rickshaw, the *cyclopousse*. Now, fleets of shiny new motorbikes zoom up and down the streets of the capital, cloaking the remaining cyclists in clouds of exhaust. The rest of the world may just be emerging from recession, but Vietnam is booming. Its economy grew by almost 7% last year, more than that of any other big country save China, according to official figures. This year, the government is predicting 7.3%. While the economy roars ahead, however, the official communist ideology and rudimentary capitalist infrastructure are struggling to keep up.

Vietnam began its long transition from a planned economy in 1986. Faced with mass starvation, the government disbanded the Soviet-style agricultural collectives, freeing farmers to grow and sell their own crops. During the 1990s, the country began to court foreign investors, and in 2000 it passed a law that made it easier for locals to set up businesses. All those changes have proved clear successes. Vietnam is now the world's biggest exporter of rice after Thailand. The stock of foreign investment grew from $230m in 1990 to $18 billion in 2000. And the number of private firms has almost doubled in the two years since the enterprise law was passed.

Yet the National Assembly passed a constitutional amendment putting the private sector on an equal footing with state-owned enterprises only last year. Before that, officials tried to avoid the word “private” altogether, coyly referring to “non-state” companies instead. The Central Committee, the highest body of the Communist Party, held its first plenum (a sort of policy-making conclave) on the private sector only this month. The meeting grappled with the vexed question of whether businessmen should be allowed to join the party—but failed to come up with a detailed policy.

For the most part, such hand-wringing over doctrine is beside the point. Whatever the Central Committee says, plenty of businessmen are already members of the party, making connections and getting ahead. Party members may bicker over the details and pace of reform, but almost no one challenges the basic idea of economic liberalisation any more. The members with the greatest misgivings are elderly, often ill-educated generals who spent their heyday fighting America and the capitalist south during the Vietnam war, but they are gradually being supplanted by younger, more open-minded and better-schooled civilians.

This lingering ideological ambivalence has a serious drawback, in the form of official foot-dragging over the planned privatisation (or “equitisation” as the reluctant capitalists of Hanoi put it) of various state-owned enterprises. Last year, the government promised foreign donors it would sell some 300 state outfits. It only managed half that number. Even if the programme goes according to schedule, the government still plans to preserve a significant public sector. Private firms are barred from “sensitive” businesses, including infrastructure and defence.

In the long run, the cosseting of state-owned firms is bound to hinder the growth of the private sector. Private enterprise has flourished so far in part because it was starting from such a low base. The boom in new companies stems almost entirely from tiny, family-run and privately-financed firms. To grow into bigger businesses, however, those ventures will require resources that currently mainly go to state-owned firms. Private firms, for instance, have a terrible time finding finance. The banks (themselves

state-owned, for the most part) still dole out almost half their loans to ailing public enterprises. The government places a cap on the interest rates private banks can charge, in effect preventing them from lending to risky start-ups. The country has a fledgling stock exchange, in Ho Chi Minh City, but all the listed companies are state-owned.

To add to these difficulties, few Vietnamese have much experience of any but the most basic form of capitalism. Banks do not have many qualified loan officers, lawyers have little experience of commercial disputes, and the National Assembly is having to grapple with the wholly unfamiliar notion of competition policy. Accountancy and methods of dispute-settlement are still in their infancy. All these ideas are as new to most Vietnamese as their motorbikes.

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Religion in India

O learned judge

Mar 14th 2002 | AHMEDABAD AND MUMBAI
From The Economist print edition

A court ruling offers some hope of calm

Get article background

AP

No building allowed

INDIA'S Muslim minority has had little reason lately to trust the protection of the law. Several hundred Muslims died in February and March in pogroms by Hindu mobs in Gujarat, a western state. But this week brought a bit of reassurance: on March 13th the Supreme Court ruled that Hindu activists could not perform a token religious ceremony on land surrounding the site of a mosque they had demolished ten years ago. Syed Ahmed Bukhari, leader of a major mosque in Delhi, called the ruling “the first victory of justice”.

The struggle over the site of the demolished mosque, which Hindus hold to be the birthplace of the god Ram, set off horrific battles between Hindus and Muslims in the early 1990s. The recent carnage in Gujarat began when a Muslim mob slaughtered 58 Hindus returning by train from Ayodhya, Ram's home town. Whether the slaughter continues depends mainly on India's government and on the disappointed Hindus.

The central government said it would enforce the court's judgment by preventing any ritual on March 15th, the day appointed by Hindu religious leaders. It seemed to mean it. Thousands of police and paramilitary troops have been deployed in and around Ayodhya and most Ram enthusiasts have been stopped from entering the town. India's government, which is led by the same Hindu-nationalist party that rules Gujarat, is dismayed by the ill fame brought to the Hindu right and to India in general by the atrocities of Gujarat. It cannot afford more.

The activists are sending mixed signals. Pravin Togadiya, a leader of the Vishwa Hindu Parishad (World Hindu Organisation, or VHP), which leads the Ram movement and has members who are accused of encouraging the Gujarat rampage, says the group will respond to the Supreme Court order with *satyagraha*, Mahatma Gandhi's form of non-violent resistance. Ashok Singhal, the VHP's “working president”, suggested, however, that the court's judgment applied only to a small part of the land and that the ritual could go ahead nearby. A group of Hindu divines was to make a final decision about what to do on March 14th.

Perhaps India could learn some lessons from Mumbai, scene of horrors past. Since 1993 local notables have formed *mohalla* (neighbourhood) committees in Mumbai's most volatile areas to reduce tensions before they get out of hand. During the violence in Gujarat one committee soothed youthful tempers by arranging a cricket game between teams composed equally of Hindus and Muslims. Other things have improved. A decade ago police went after Muslims, says K.M. Aarif, a leader of the Mohalla Committee Movement. Today's police protect them, thanks in part to the influence of the movement, which was started by a former police commissioner. Its leaders plan now to spread their message in Gujarat.

The dangers and the disputes are by no means over. Things could still turn ugly on March 15th. The Supreme Court plans to review its decision in ten weeks, another occasion for suspense. Although the would-be temple builders have said that they will respect a final court ruling on the ownership of the disputed site, no one expects them to give up.

The ruling Bharatiya Janata Party, which belongs to the same family of Hindu-right organisations as the VHP, seems unable to resist pandering to ideologues who helped fan Gujarat's flames. India's attorney-general suggested on March 13th that a few priests should indeed be allowed to conduct a ritual on the

land near the temple. This is the “first time in the history of India that the government has favoured one community before the Supreme Court,” claims A.G. Noorani, a constitutional lawyer and long-time critic of the BJP. The party's 18 coalition partners squirmed, but stayed put. For now.

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Myanmar

A Ne Win situation

Mar 14th 2002 | BANGKOK
From The Economist print edition

Mysterious arrests

MEETING late at night in a Chinese restaurant, the family of Myanmar's former strongman, Ne Win, plotted to seize power with sticks and voodoo dolls. That, at any rate, is how the spokesmen of the current junta, the State Peace and Development Council, account for the arrest last weekend of four of Mr Ne Win's close relations and the subsequent sacking of four senior military officers. It all sounds somewhat far-fetched—but no matter: the truth is less important than the results. The local equivalent of Kremlinologists have been poring over the news for some hint about the prospects for political change.

Since 1990, when the army annulled an election, Myanmar has stagnated under a repressive military regime. But for over a year now, the junta has been holding secret talks with Aung San Suu Kyi, whose party won the aborted poll. The talks have sparked hopes of a deal that might pave the way for a restoration of democracy, or at least some sort of softening of the generals' rule. The attempted coup (if there was one), commentators speculated, may have been intended to block such an outcome. So the arrests might be good for reform.

Sadly, there is no real reason to imagine that the alleged plotters feel any differently about reform than the triumvirate of generals that heads the junta. Until last week, Mr Ne Win's relations were known (and despised) for exploiting their political connections to build a business empire. Like other insiders, they would presumably be reluctant to cede any political or economic power, but would like to ease the international isolation that has left Myanmar's economy in tatters.

So it is quite plausible, as the junta's spokesmen insist, that the purported coup stems merely from squabbling over business deals. But that does not make the episode irrelevant. Mr Ne Win ran Burma (as the country was then known) for over 25 years. Even after he handed power to the current military regime, he was still thought to exercise influence behind the scenes. The fact that the junta's leaders dared strike at such a prominent family suggests that they are very firmly in control. So they have no reason to abandon their talks with Miss Suu Kyi—but neither, unfortunately, do they have any need to make serious concessions in them.

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The Philippines

A tempting option

Mar 14th 2002 | MANILA
From The Economist print edition

The troublesome ex-president could be exiled

Get article background

EPA

Will the jailbird fly?

ALTHOUGH Joseph Estrada, former president of the Philippines, is safely locked up while he stands trial for corruption, he remains a thorn in the side of his successor, Gloria Macapagal Arroyo. Mrs Arroyo gave warning on March 11th of “insidious machinations to take the struggle out of the courtroom” and to “try to evolve it into a conspiracy to foment public disorder and undermine the people's allegiance to the constitution and the system of justice”. She was referring to Mr Estrada's decision to sack his defence lawyers and, as he put it, entrust his fate to the people and to God. Many politicians in the Philippines assume this means disorder on the streets similar to that seen on May 1st last year, when thousands of supporters of Mr Estrada, angered by his arrest, tried but failed to storm the presidential palace, with Mrs Arroyo inside it.

Three months previously, Mr Estrada had himself been forced from the palace by a peaceful popular uprising provoked by stories that he was staggeringly corrupt. He is now on trial in a special court for the crime of economic plunder, which is punishable in extreme cases by death.

Mr Estrada says he is innocent. His lawyers strove with some success to hamper the prosecution's presentation of evidence. But on February 25th Mr Estrada seemingly damaged his chances of acquittal by inexplicably admitting in a television interview that he had signed bank documents with a false name—a crucial element of the prosecution's case. A day later, Mr Estrada dismissed his lawyers, accused the court of bias and said that he had given up hope of obtaining justice.

Since then, Mr Estrada has repeatedly denigrated the judicial system, describing the proceedings against him as farcical. Government officials say his supporters have tried to bring on to the streets Estrada sympathisers among the urban poor, who turned out in their millions to elect him president in 1998. In the face of this threat, various members of Congress have toyed with the idea of some kind of compromise. He might be exiled perhaps, or at least allowed to seek treatment in the United States for his arthritic knees, in the unspoken hope that he would not return. But Mrs Arroyo insists it is up to the courts, not Congress, to decide Mr Estrada's fate.

Government officials seem not to believe Mr Estrada's supporters can mount a serious challenge to Mrs Arroyo's authority. Since last year's attempt to storm the palace, there have been persistent rumours about further efforts to unseat her. Although her position appears secure, she could be forgiven for being tempted by the option of simply shipping Mr Estrada out of the country. She has had some success in restoring political stability and in repairing the damage done to the economy during her predecessor's term of office. She has shown determination in dealing with Muslim insurgents in the south of the country. But Mr Estrada's posturing, however theatrical, is a distraction that Mrs Arroyo could do without.

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Australia and New Zealand

Can we have our ball back, please?

Mar 14th 2002
From The Economist print edition

Trouble across the Tasman Sea

AP

Small scrum, many injured

AUSTRALIANS and New Zealanders enjoy a grumble about each other from time to time. But the present dispute is serious. It concerns rugby.

Next year, the two nations had been due to act as joint hosts of the rugby world cup tournament. But last week the Australian Rugby Union stripped New Zealand of its joint role. The New Zealand Rugby Football Union had refused to agree to conditions set by the International Rugby Board that would severely limit its share of the potential profits. The Australians are to ask the board to let them stage the tournament on their own. The antipodes may lose the tournament altogether if the board decides to move it to a time zone more suited to live television broadcasts.

David Rutherford, the New Zealanders' chief executive, blames the international body rather than the Australians. All the same, he feels that southern-hemisphere countries should stand together against northern money-grubbing. What has happened to the Anzac spirit, which dates from the slaughter of the Gallipoli landings in the first world war, and is regularly recalled by historically minded Kiwis?

Perhaps Australia's willingness to meet the international body's conditions indicates its greater acceptance of the realities of professional rugby. And the diminished state of the game in New Zealand may play a part in Australia's attitude. Although rugby is far more popular in New Zealand than in Australia, the All Blacks are no longer dominant internationally. In 1999, Australia became the first side to win the world cup twice. The All Blacks were beaten ignominiously by France in the semi-final, and have not won the cup since the inaugural tournament in 1987. The *New Zealand Herald* said that the conditions should have been accepted, whatever the cost.

Among other recent niggles across the Tasman Sea, the Australians have accused New Zealand of not pulling its weight on defence after scrapping the combat wing of its ageing air force. Nor were they amused by the collapse in September of Ansett, an Australian airline owned by Air New Zealand. And New Zealand's willingness to accept asylum-seekers shut out by Australia contrasts markedly with the Aussies' fortress mentality. But rugby is a trust that rises above mere politics. If neither country gets the world cup, don't expect the dispute to be easily forgotten.

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Israel and the Palestinians

Slugging it out

Mar 14th 2002 | JERUSALEM AND RAMALLAH
From The Economist print edition

Reuters

As the bloodshed, the fury and the grief intensify, so does the diplomacy

Get article background

THE bloodiest week by far of the nearly 18-month-old Palestinian *intifada* did not extinguish all hope. Indeed, it gave rise to a new one: that the Israeli army's intensified assaults on Palestinian refugee camps were a final splurge of vengeful violence before Ariel Sharon, the Israeli prime minister, succumbs, however grudgingly, to renewed American efforts to bring the killing to an end.

This glimmer of hope has been lit by Mr Sharon himself, and the concessions he has made. He has freed Yasser Arafat from three months of house arrest in Ramallah, his headquarters in the West Bank. He has abandoned his demand for seven days of complete quiet before ceasefire talks can begin. And, as a result, he has lost the most hardline member, the National Union, of his Likud party's ruling coalition, thereby seeming to throw in his fast-dwindling political fortunes with more moderate allies in the Labour Party.

Perhaps, then—though few believe it amid all the death and grief—all this signifies that Mr Sharon is ready to do business with the American envoy, General Anthony Zinni, who was due to arrive on March 14th to resume the peace mission he suspended in frustration in January. If Yasser Arafat, the Palestinian leader, seriously intends, for his part, to exert his personal authority, much enhanced by his stint of defiant incarceration, to rein in his hard men, then the worst could be over.

Or, of course, it could still be ahead. Palestinians in the West Bank and Gaza this week endured the biggest Israeli assault—especially on the refugee camps—in 34 years of occupation. An armoured force of divisional strength, involving some 150 armoured vehicles, rolled into Ramallah on the night of March 11th, occupying all of the city save Mr Arafat's battered government compound. Mr Sharon's son, Omri, reportedly telephoned Mr Arafat before the tanks' arrival to assure him he was not in their gunsights.

Six Palestinians were killed that night in exchanges of fire with the soldiers. In Gaza, the army killed 24 Palestinians, including 17 in a three-hour blitz on Jabaliya, the largest refugee camp in the occupied territories. The army said most of the dead were armed fighters. Many were plainly civilians, killed fleeing their homes.

The army says these incursions have been military “successes”. Bomb- and rocket-making workshops were unearthed and destroyed; known militants were weeded out from among thousands of men

arrested and interrogated; and the army suffered relatively few casualties, although three soldiers died on March 14th when a roadside bomb destroyed an Israeli tank. Palestinians argue that although militiamen did put up some resistance in Ramallah, it was sporadic and often intended merely to keep the army at bay long enough for “wanted” militants to flee the camps. Palestinian factions say none of their most wanted members were netted.

The Israeli military onslaught was designed to show that the army's reach extends to all parts of the Palestinian areas. But Palestinians have been showing that they can reach everywhere, too. A suicide-bombing on March 9th killed 11 young people in a crowded café just opposite the prime minister's official residence in West Jerusalem. Two more Israelis died in a terror attack in Netanya, which, like West Jerusalem, is one of the most heavily policed areas of the country.

Since March 1st, more than 160 Palestinians have been killed and hundreds more wounded by army fire. The Israeli invasions of Palestinian refugee camps have damaged 1,600 shelters, says the UN Relief and Works Agency, which is responsible for the welfare of Palestinian refugees. Tanks have shelled hospitals and soldiers have shot dead five Palestinian medics.

Television pictures of the “arrests” of 2,000 Palestinian men—hands clasped behind heads, eyes blindfolded and army numbers stamped on their arms—have horrified some Israelis. “The army has lost any moral compass,” says B'tselem, an Israeli human-rights organisation.

Advantage Arafat

Mr Arafat has gained the political initiative. Besides Mr Sharon's concessions, the Palestinian leader has also been rewarded with an American-drafted UN Security Council resolution “affirming a vision” of a Palestinian state, and with a Saudi proposal, due to be ratified at an Arab summit on March 27th, offering Israel “complete peace” with the Arabs in return for a complete withdrawal from the occupied territories. Palestinians see both UN and Saudi positions as vindication of Mr Arafat's long-held negotiating position.

As for the Palestinian militias, they are now united around a merciless strategy aimed at Israelis. How easily this could spread the fighting to other fronts was demonstrated on March 11th, when two Palestinian gunmen ambushed Israeli cars on a road close to the Lebanon border, killing six people. Earlier that day, the Israeli army's chief of staff had warned a parliamentary committee that the Hizbullah militia in south Lebanon planned “to open a second front”. The whole border area went on tense alert. That war too, which has been quiescent since Israel's withdrawal from Lebanon two years ago, seemed about to flare up again.

After the killings in Jerusalem and Netanya, this added up to a twofold message from the Palestinian men of violence: no Israeli is secure; and the more Israel hits Palestinians in the West Bank and Gaza, the greater the prospect of Israel's armed confrontation with the Arab world.

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Arabs and America

Unwilling allies against Saddam

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Arab leaders are not keen on another war with Iraq

TWELVE years ago, America's secretary of defence flew to the Middle East to win support for war with Iraq. This week Dick Cheney, now vice-president, is back on much the same mission. But this time he needs far greater powers of persuasion. Saddam Hussein's invasion of Kuwait in 1990 was so vicious that the region's leaders were happy to see him bombed. The picture is different now.

Iraq's military might has withered. The likelihood that Saddam still possesses some nasty weaponry disturbs Pentagon planners, but most of his neighbours see this as a fuzzy and remote danger rather than a clear and present one. They are much more worried by Israel's heavy-handed suppression of today's much bloodier Palestinian uprising. And they would like more say in how the “war on terror” is to be prosecuted.

Mr Cheney's tour takes in 11 countries in eight days. His first stop is Jordan, whose pro-American ruler, King Abdullah, recently declared that an attack on Iraq could be disastrous; in the streets of the capital, Amman, protesters this week chanted, “Bin Laden, bin Laden, hit Tel Aviv.” Mr Cheney will visit Turkey, a NATO member whose prime minister, Bulent Ecevit, has described American threats against Iraq as a “nightmare” for his economically troubled country. And he will call on Saudi Arabia, where Adel al-Jubair, a policy adviser, recently said that Iraq should be dealt with through the UN, not by “dropping bombs on people”. All these American allies would love to be rid of Mr Hussein, but do not understand why he has become America's chief obsession. Why does America not try, instead, to get Israelis and Palestinians talking again?

President George Bush has signalled awareness of such concerns by dispatching his top Middle East negotiator, Anthony Zinni, to the region. Mr Zinni faces an even greater challenge than Mr Cheney, however, not least because most Arabs and Israelis assume that his task is to act as a foil to the vice-president rather than seriously to broker peace. A columnist in the Arabic daily *Al Hayat* described Mr Zinni's mission as a “pharmaceutical” pacification of tempers, in contrast to Mr Cheney's “surgical” aim of removing Mr Hussein.

For his part, Mr Cheney has said he prefers not to emphasise the link between Iraq and other matters. He is likely to concentrate on sharing intelligence to illustrate the dangers of Iraqi weapons development. Such is the level of regional concern with the mounting violence, however, that Mr Cheney is still likely to be distracted by the Palestinian issue.

Saudi Arabia—with its long border with Iraq, its crucial military facilities, its ability to compensate for drops in Iraqi oil production and the al-Saud family's gut loathing of Mr Hussein—would be the logical cornerstone of any alliance against Iraq. But Crown Prince Abdullah, the acting ruler of Saudi Arabia, has floated a peace plan which has gained wide backing in the region, but not as much backing from America as he would like. Some analysts believe he may tell Mr Cheney he will help with Iraq only if America curbs Israel.

Meanwhile, the Iraqi leader has mounted a diplomatic offensive of his own. His foreign minister has restarted long-stalled talks over the return of the UN weapons inspectors that Iraq tossed out in 1998; Egypt's president, Hosni Mubarak, promised to push for their re-admittance. Mr Hussein has sent a senior henchman, Ezzat Ibrahim, to warn neighbouring Syria and Jordan not to give in to America, and has hinted that Iraq might normalise ties with Kuwait. Mr Hussein has also raised the “bounty” he pays to the families of Palestinians killed by Israel to $25,000.

Mr Hussein may believe that America is bluffing. While his foreign minister talked in New York about

weapons inspections, his own vice-president, Taha Yassin Ramadan, was vowing that the monitoring would never resume, since the eight years of “vicious spying” Iraq endured before 1998 were quite enough. Meanwhile, Mr Hussein's deputy, Tariq Aziz, growled that if Iraq were attacked, American interests in Arab countries would be threatened “by the people, not the regimes”.

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Conflict diamonds

Smuggling is easy

Mar 14th 2002 | BANGUI
From The Economist print edition

Diamonds are precious, tiny and simple to conceal

A CACHE of 400,000 carats of diamonds appears to have vanished, but André Dorogo is not worried. It is an “annual inevitability”, says the Central African Republic's affable minister of mines. The gems have not been stolen, merely laundered to wash off the blood. Officially, only 500,000 carats of jewel-quality diamonds were exported from the country in 2000. But Antwerp's diamond exchange alone records imports into Belgium of 900,000 carats from the CAR.

With its long, unpatrolled borders and chronic political instability, smugglers love the CAR. Some sneak local diamonds out, to avoid taxes. Others import stones from African war zones, mix them with local stones, and re-export them as CAR gems, to dodge a UN embargo. Dealers in Bangui, the capital, admit that the trade in “conflict diamonds” is booming.

Experienced buyers know at a glance where a bag of uncut stones originates. But once cut and polished, a diamond's provenance is difficult to determine, which is perhaps why, as one dealer puts it, “The UN embargo makes absolutely no difference.” Since it began, the number of diamond-buying bureaus in Bangui has trebled. Dealers live and work in heavily-fortified villas, and communicate via satellite. They are a tough bunch. Minair, an airline used by diamond companies, continued to fly during an attempted coup last year, even as everyone else in Bangui took shelter from the whizzing bullets.

The trade does the country's reputation no good, so the government is proposing to clamp down. At present, licences to mine or trade in diamonds are handed out by the president, Ange-Félix Patassé. The system is slow, opaque and open to abuse. Under proposed new rules, the criteria for awarding licences would be clarified. Plans are also afoot to establish a certificate-of-origin system, which would make it harder to pass foreign gems off as local.

In the long term, the government says it wants modern, deep-shaft mines to replace the hordes of unlicensed, shirtless prospectors who dig up most of the country's gems. Formal mines are more efficient and easier to oversee, but require money and technology, of which the CAR has little. A team of investors arrived last year to scout for opportunities. Unfortunately, the coup erupted on the day they were supposed to meet their local contacts, and they were unable to leave their hotel.

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Drugs, Iran and Afghanistan

What the Taliban banned

Mar 14th 2002 | ZAHEDAN
From The Economist print edition

With the Taliban toppled, Afghan opium is flooding Iran

Get article background

FROM the point of view of their Iranian neighbours, the Taliban did two good things. Their leader, Mullah Omar, banned the cultivation of opium poppies, and he enforced that ban brutally. Iran's leaders much prefer Afghanistan's new interim prime minister, Hamid Karzai, to his iron-fisted predecessor, but wish he was tougher on drugs. Although Mr Karzai has banned both poppy-growing and drug-trafficking, he cannot stop the trade.

What the Afghans grow, Iranians smoke or inject. At least 2m Iranians are addicted to opium and its derivatives, morphine and heroin. Mr Omar's ban may have been a cynical ploy to win diplomatic recognition, but it caused production to plummet and the price of opium to quadruple in a few months. Impoverished Iranian addicts suddenly applied in record numbers for help in kicking the habit. Overcoming its revulsion for the Taliban, Iran sent experts to Helmand, Afghanistan's main poppy-producing province, to encourage farmers to grow other crops.

All this happened at a time when Iran's domestic drugs policy was becoming more open and effective. Muhammad Falah, the man in charge, encouraged non-governmental organisations to set up rehabilitation clinics, spoke out against the mass imprisonment of drug addicts, and even argued for the distribution of clean syringes in jails. Such ideas were unthinkable in the bad old days, when the government's aim was to disguise the problem.

America attacked Afghanistan last year at poppy-planting time. Farmers in Helmand took advantage of the Taliban's disarray to sow 35,000 hectares (86,000 acres) with poppies and the UN expects this year's harvest to be almost as bountiful as the bumper years of the late 1990s. The local warlords, who probably profit from the trade, pay little heed to Mr Karzai or his police. Poppies sprout fast: a first crop will be harvested by the end of April; a second will be ready in June.

Iran has strengthened security along a border already crawling with soldiers and paralleled by immense trenches, impassable even by a self-navigating camel with a bellyful of drugs. In two weeks earlier this year, the security forces in the border province of Sistan-Baluchistan seized six tons of drugs and killed, they say, 90 smugglers. Mehdi Morassaie, the province's anti-drugs supremo, hopes to keep prices high. In the main market in Zahedan, the provincial capital, opium is still relatively expensive, at $750 a kilo. But in Tehran, where the stuff usually costs far more, the price has fallen from $2,000 a kilo last November to around $1,300. After the harvest, prices will surely fall further.

Iran's leaders are understandably frustrated. After helping bring Mr Karzai to power, they now have less influence over the Afghan drug industry than before. Muhammad Khatami, Iran's president, says he wants to carry on helping with crop substitution, but the warlords of southern Afghanistan are not interested. Nor is America. An Iranian official laments that America's new chumminess with Afghan warlords may preclude a serious effort to crush the trade on which they depend.

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Niger Delta

From hijacking to snail-breeding

Mar 14th 2002 | KONGHO
From The Economist print edition

Good news, for a change, in the Delta

IT HAS walls and a roof, but no doors, windows, wiring, plumbing or beds. And the health centre in Kongho may never be completed, because someone appears to have trousered the government allocation for building it. This, in microcosm, is why efforts to spread Nigeria's oil wealth around the Niger Delta, the region where the oil is pumped, have failed. Money earmarked for the poor too often drops into powerful pockets.

Past Nigerian governments allowed the country's oil-producing states to keep only a tiny share of the cash they generated, but the current president, Olusegun Obasanjo, has promised to make amends. The head of a new development commission for the Delta has vowed to start by completing some of the 1,300 half-finished roads, jetties, bridges and other projects left behind by his predecessors.

The oil companies that work in the Delta have spent lavishly on schemes to make locals' lives less irksome, but to little effect. An external review for Shell found that over half the projects it supported were either “non-functioning” or “partially functioning”. Some were scuppered by the crookery of local politicians; others were simply inappropriate. Oil firms have tended to favour big, visible gifts, such as boats or bridges. But the projects that work best are the ones where donors ask the locals what they actually want before writing cheques. This has worked in Kongho, a village at the Delta's southern tip.

The villagers, when asked four years ago by a French charity, said they wanted to master trades other than fishing, which was the only local money-spinner of any size. So the donors paid for the villagers to learn basic financial techniques, to enable them to make more profitable use of skills they already possessed, such as soap-making and chicken-breeding. With advice from a visiting agriculture student, some locals have started raising giant African snails, a popular ingredient in spicy Nigerian soups. A new micro-credit scheme offers small loans to people with ideas for new businesses. So far, the repayment rate has been an impressive 98%.

The scheme is now entirely run by locals, with foreigners as occasional advisers. All this seems to have brought new hope to the area. A local youth leader says that young men, who used to hijack oil-company speedboats for a living, now see more future in learning to read.

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Turkey and the EU

A general speaks his mind

Mar 14th 2002 | ANKARA
From The Economist print edition

The European Union has long been in two minds about Turkey's candidacy for membership. So, increasingly, are some fed-up Turks

Get article background

DOES the European Union really want Turkey to join it, or not? The longer it dilly-dallies, which has meant years already, the more are some Turks inclined to ask whether, after all, they really fancy joining the EU. Last week a leading general voiced their doubts out loud: Turkey should seek fresh alternatives to Europe, “which looks negatively on Turkey's national interests”, and turn towards its old regional foes, Iran and Russia, instead.

Crusty Kemalists spluttered over their rakis: here was a challenge, from the army, if you please, not just some politician, to the line laid down by the national hero almost 80 years ago. Assurances from the general staff headquarters that General Tuncer Kilinc had spoken merely for himself could not stifle the debate set off by his remarks that is now raging across Turkey. Assurances or not, he, after all, is not just any brasshat but secretary-general of the National Security Council, Turkey's top decision-making body, where its civilian and military leaders ponder the biggest issues of policy. Just where do the ever powerful men in uniform stand on the EU?

That question has become all the more pressing in recent months, as the awkward three-way governing coalition of ultra-nationalists, conservatives and left-wingers wrangles over the reforms—they include abolishing the death penalty and easing restrictions on the Kurdish language—that have to be made if the country is ever to start membership talks with the EU. It got acceptance as an official candidate only in 1999. Now it is asked to do things that many traditionalists balk at.

If Turkey is to become a full-blooded western-style democracy, eventually the civilians will have to pluck up the courage to dilute the armed forces' continuing influence over politics. General Kilinc's outburst suggests that this will prove the most difficult reform of all.

It's the fact that you say it

His arguments have not been taken too seriously. For decades, the soldiers have denounced Islamic radicals together with Kurdish separatists as the greatest evils threatening Turkey—a point against the EU-proposed reforms. But they have also counted Iran among these dangerous people's leading

supporters. Apologists for the generals in the pro-establishment media insist that what General Kilinc really meant was that Turkey had to prepare a contingency plan against the event that the EU continued to keep it out. But the point is not so much what the general said as the fact that he felt entitled to comment publicly, and against government policy, on so grave an issue.

Not that behaviour like that is exactly a novelty. Ever since the death of Kemal Ataturk in 1938, the armed forces have seen themselves as the custodians of his secularist legacy. They have seized power thrice since then in the name of preserving it, and in 1997 played a central role in squeezing out the country's first Islamist-led government, on thinly supported charges that it was seeking to introduce Islamic law. Corruption and squabbling among the country's lacklustre politicians have helped legitimise the army's role.

The prevailing conviction among the generals is that they know what is in the best interest of the Turkish people. They apparently believe that many of the conditions that the EU has laid down for Turkey's membership are not. And there are indeed some, not just among the generals, who think that the EU's scheme is to lure Turkey with promises of membership into making concessions over the Kurds, over Cyprus and over its territorial disputes with Greece in the Aegean—and then, having got what supposedly suits the EU, a weaker and divided Turkey, to slam the door shut for good.

At current rates of population growth, in 20 years' time there would be 85m Turks. In reality there will probably be fewer. But that barely alters the point of Professor Hasan Unal, a prominent political scientist at Ankara's Bilkent University: “Why would the EU allow a Muslim country to become its largest and most powerful member, and in so doing move its borders to countries like Iran and Iraq? The EU will never admit Turkey. They want us to remain a barrier between themselves and the dirt.” The EU's refusal to add a particularly vicious extreme-left group known as the DHKP-C and the Kurdish- separatist PKK to its list of terrorist organisations has only sharpened such misgivings.

Even so, opinion polls show that a huge majority of Turks are in favour of joining the EU. And the politicians' reaction to General Kilinc's remarks suggests that the brasshats' other worry, the loss of influence that EU membership would entail, may just be starting.

From the left, the prime minister, Bulent Ecevit, said flatly that “EU membership is Turkey's right, there is no question of seeking alternatives.” Mesut Yilmaz, the deputy prime minister from the conservative Motherland Party wing of the coalition, called the general's remarks “a nightmare”. A former ambassador, writing in a (pro-establishment) daily paper, argued that anyone serving in the foreign ministry would have been disciplined for doing what General Kilinc did. “If only civilians are to be held accountable, while soldiers are regarded as immune in such situations—well, a country where such a system prevails can only be called a military democracy.”

That is a fair enough description of Turkey in recent decades. The issue now is whether, and if so how soon, it ceases to be true.

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Poles and the Catholic church

Preaching for the European Union

Mar 14th 2002 | WARSAW
From The Economist print edition

The church may help the government win support for EU membership

AP

Glemp gives his blessing

THE government wants to see Poland in the European Union. So, say pollsters, do some 55% of Poles. But that figure is shrinking, as the tough terms offered by the EU become known. So where is the government turning for help with public opinion? To the Roman Catholic church.

That is odd. Poland is the most outwardly religious country in Europe. Over 90% of Poles call themselves Catholics, and half attend mass regularly. It was an alliance of the church with the dissident trade-unionists of Solidarity that wrecked communism. Yet bishops who expected church and state to be integrated in the new Poland were soon to be disappointed: in 1993 parties dominated by ex-communists were voted into power. The church has settled for autonomy: it will run its sphere, and let the state mind the temporal shop. Yet here is the government—another one of ex-communists, elected last September—asking it for political help.

The prime minister, Leszek Miller, was a member of Poland's last communist Politburo, and is instinctively anti-clerical. But he has studiously avoided criticising the church, has asked senior churchmen to sit on EU-related committees, and has secretly promised not to touch the question of abortion or any social issue vexing for the church until after next year's referendum on membership. In return, he hopes the church can win over to Brussels those voters, maybe 30% of the total, who follow its advice in matters of ethics.

Will it work? Pope John Paul is certainly game: Poland's agnostic president, Aleksander Kwasniewski, confirmed as much at a recent audience with his countryman in the Vatican. A majority of Poland's 120 bishops now favour joining the EU, albeit with reservations on abortion and concern for Polish farmers, prominent among their flock. Cardinal Jozef Glemp, the country's top churchman, calls EU membership a “historical necessity”. Yet many of the flock are Eurosceptics.

The church's alliance with Mr Miller may be a useful cover for reining in its own far-right fringe, whose mix of religion with nationalism and conspiracy theories is becoming an embarrassment. This fringe has found political voice in the League for Polish Families, a new party backed by 8% of the voters last autumn. Many of these listen to Radio Marya, a religious radio station fiercely hostile to the EU. Antoni Macierewicz, the league's spokesman—and remarkably, given his present paranoia, Poland's interior minister in 1991-92—sees the EU as a communist plot. “The way to Moscow is through Brussels,” he says.

And what would the league like? A united Europe, yes, but a diverse one, says Mr Macierewicz, and one based on Christian principles. Which do not, for him, include being tolerant of homosexuals, for example: “They are evil,” he says, likening them to child rapists and mass murderers.

This is the sort of harshness the church wants rid of. The league is “using Catholicism to cover its own lack of political professionalism,” says the bishop of Warsaw, Piotr Jarecki; it should turn to temporal problems such as unemployment, now 18% and rising. The best service the church can do, he reckons, is to sponsor reasoned debate about joining the EU, not from the pulpit, but by distributing objective materials within Catholic lay associations.

Jerzy Urban, the publisher of a satirical magazine, *Nie* (No), which claims 1m readers, is one of Poland's

few open critics of the church. *Nie* loves exposing real or imagined church misbehaviour. With a puff on his cigar, its boss dismisses the pope as “a cheap Krakow actor”. That puts Mr Urban in a tiny minority: many Poles will be swayed by the pope's Europhile addresses when he returns to his homeland this summer.

The pope, for his part, thinks it Poland's duty to restore Christian values in Western Europe. Perhaps it is doing so already: Polish seminaries are full, and the average age of Polish priests is 45, against 65 for priests inside the EU. Already a thousand Polish priests prop up the church in Germany, and many more are sure to follow.

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The Czech Republic's politics

Reaching for the European Union

Mar 14th 2002 | PRAGUE
From The Economist print edition

The politicians aren't up to much, but better times seem to lie ahead

THEIR distinguished president is limping along, physically and politically. The question for Czechs is whether their republic, and the new legislature they will elect in June, can do any better.

For months now, President Vaclav Havel, afflicted by smog and the ill-health born of many years of smoking and several of dank communist prisons, has been commuting between hospital, the cleaner air of the presidential country house at Lany, well outside Prague, and Mediterranean retreats. Yet he is wonderfully durable. He has presided over the Czech Republic since its creation in 1993 and is determined, with just one year left, to see out his second five-year term and nudge his country—already a member of NATO—towards the European Union, which it hopes to join in 2004.

Power, though, lies elsewhere. And that is where the questions start. Parliament, not the people, will decide on Mr Havel's replacement early next year. Politicians are already jockeying for the post. First, though, the voters must elect a new parliament—and the prospect leaves most of them unthrilled. The republic's main politicians have not changed since 1989. Their posturing is as predictable as it is petty. Voters feel further marginalised by the deals between parties that are supposed to be ideologically opposed. In June three of them are likely to win more or less a quarter of the vote apiece, and the next government, like the present one, will be decided by post-election horse-trading.

For a while, it was the Quad Coalition, cobbled together by the Christian Democrats and other centre-right parties, that was leading in the polls. But squabbling over money and ideas has cut the four parties to two, and the group's name to mere Coalition. Its support has shrunk.

All the better for the centre-left Social Democrats, whose loud-mouthed leader, Milos Zeman, now runs a minority government, under an opaque deal with the supposedly free-market (and supposedly opposition) Civic Democrats. Aided by a growing economy and Mr Zeman's decision to step down at the election in favour of Vladimir Spidla, who is further to the left and younger, the Social Democrats hope to see their modest electoral revival boosted in June.

The Civic Democrats are imperiously commanded by a former prime minister, Vaclav Klaus. “My prime minister,” Margaret Thatcher once called him, and sure enough he loathes the EU and is given to emotive hectoring. He is also the country's brightest and most charismatic politician. Conspiracy theorists note that he and Mr Zeman worked in the same office under communism, but their accord is likely to unravel as the election nears, not least because both men covet the presidency.

With an average wage of $375 a month, most voters still have a hard time. But less hard than before, and outside the battered coal and steel belt (where the reformed Communists still do well) the economy is surprisingly strong. If exports hold up, it could grow by 4% this year. The state's coffers, strained by a large budget deficit, will be boosted by privatisations, though a proposed sale of a 68% stake in the the state electricity company for some $5.5 billion has just—for the moment—come to a halt. Rotten banks have been cleaned up and sold. Foreign investment should remain the highest, relative to population, in the region.

As that suggests, the economy is now firmly anchored in the western world, as it was before 1938. Negotiations for EU membership have gone well, and Austria has backed down from its threat of a veto in protest against the Temelin nuclear power station which the Czechs recently completed near the two countries' border. Recent rows over the “Benes decrees”, whereby Germans, Austrians and Hungarians were expelled in 1945, can surely be overcome. The main remaining tripwire may be the hostility of Mr Klaus.

Or it may not. Though his party is now ranting about a Munich-Vienna-Budapest “axis of evil”, his attacks on the EU are carefully calibrated. It is not membership as such, he says, that he fears, but the suffocation of Czech autonomy that might follow it. He thinks this “Euro-realism” will win more votes on the right than it loses in the centre. Yet what he may be tripping up is himself. If too many voters are scared into Coalition's arms, Mr Klaus may be cut out of the next government and so of any chance of the presidency.

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Eastern Germany's economy and voters

In the dumps again

Mar 14th 2002 | BERLIN
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The ex-communist east is in recession: bad news for Gerhard Schröder

TO WIN Germany, pundits say, you must win the east. That has been true in all three general elections since the 16m Germans in the former communist east were reunited with the 63m in the west. Having no tradition of party loyalty, the easterners are readier to switch their vote than their western cousins. No wonder the Social Democratic chancellor, Gerhard Schröder, and his conservative rival, Edmund Stoiber, are now desperately trying to woo the eastern vote in the approach to the general election in September.

In 1990, only 24% of easterners voted for the Social Democrats (SPD) , whereas 42% opted for the Christian Democrats (CDU) who had just given them both their freedom and the mighty D-mark. By 1998, there was still little sign of the "blossoming landscape" promised by the CDU, and the easterners switched to the SPD, giving it 35%, eight points more than the CDU. Mr Schröder had promised to make reconstruction of the east a top priority. Today, it is in greater trouble than before.

Its economy soared at an average 8% a year in the first half of the 1990s; since 1997 it has grown at less than half the western rate, and last year it moved into recession, shrinking by 0.5%. Wages are still a quarter below those in the west, yet unemployment has climbed to almost 18%, higher than when Mr Schröder came to power and over twice the western rate. Productivity, having doubled in the early years, has been stuck at two-thirds of the western level since 1997.

The mood in the east is grim. Pollsters give the CDU 36%, the SPD 27%—only three points more than the Democratic Socialists, the heirs of East Germany's communist rulers. But Mr Schröder is still more popular personally than Mr Stoiber, who until his recent nomination as the right's candidate for the chancellorship showed little sympathy for the east, vigorously opposing a revenue-sharing scheme to aid its poor states at the cost of rich ones like his own Bavaria. Now, however, Mr Stoiber is vying with his rival in promises of aid.

The east has already had some *euro*750 billion ($675 billion) in net transfers of public funds over the past decade. Much has been achieved—not enough, but far more than most easterners care to recognise. And, despite grumbles from states like Bavaria, the federal government recently pushed through a new *euro*156 billion "solidarity pact" to improve infrastructure in the east in the 15 years after 2005, when the current pact ends. Yet money alone cannot solve all the east's ills.

One of its biggest troubles has been the collapse of the building industry. Fuelled by fat subsidies, this was the main motor of eastern growth in the first half of the 1990s, at one time employing a third of the workforce. But now houses—around 1m of them—and offices lie empty, the builders' productivity has plummeted, and their woes look set to continue for at least another year.

Another, perhaps more intractable, problem for the east has been the exodus of many of its brightest and best. Even before formal reunification, some 800,000 easterners flooded west over the newly opened borders in search of a better life. Since 1991, a further 1m have left, tempted by better job opportunities and higher wages in the west. Most are young, dynamic and well trained. Some have since returned, but

they tend to be the old or the less successful. This is one reason for the continuing wide discrepancy in productivity between east and west.

Elections in the eastern state of Saxony-Anhalt on April 21st will provide the last test of German voters' mood before the general election. The CDU scored only 22% in the latest state elections there; the polls now give it 35%. The SPD, which has run the state as a minority government, with the ex-communists' tolerance, since 1994, is given just 30%, six points less than last time.

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Anti-immigrant politicians

Here we come— well, one of us

Mar 14th 2002 | ROTTERDAM AND PARIS
From The Economist print edition

A new populist face in the Netherlands, an old one in France

Get article background

EPA

Rotterdam's Fortuyn

ONE of them is an old stager: Jean-Marie Le Pen, trying again for France's presidency—not that he can win, if indeed he even gets the chance to try. Outside the Netherlands, few people had heard of Pim Fortuyn until last week. But he has won already: a third of the vote for his Liveable Rotterdam party in the port city's local elections and 17 of 45 council seats.

He has come as a shock, as have the sharp gains of his former party, Liveable Netherlands. It kicked him out a month ago for demanding an end to Muslim immigration (around 5% of the country's 16m inhabitants are Muslims) and to anti-discrimination clauses in the constitution. He simply formed his new party, now ahead of the old one in national opinion polls.

How could it happen, in a land of famous tolerance, where druggies and gays litter the parks, foreigners gather on every street corner, and—or so the outside world used to believe—no one even notices?

EPA

France's Le Pen

“Precisely because they do litter the parks and the streets, and none of the politicians really noticed,” admits a supporter of one of the traditional parties, “but lots of ordinary people do.” And there's more. For Mr Fortuyn is not just anti-immigrant (nor anti-gay at all, both being gay and knowing that this particular issue sways no votes anyway). He is also anti-crime, anti-bureaucrats and anti-taxes. He is for better health care and schools. Hands up any good liberal Dutch person who is not. In addition, he makes mock of the traditional parties that the electoral system brings repeatedly, albeit each time in mildly different proportions, to coalition power, and whose—seemingly admirable—habit of settling things quietly by consensus rather than in vulgar public debate has at last got up the public nose.

The pattern of cosy power-sharing was cracked in 1994, when a coalition was formed without the Christian Democrats, unified heir to the confessional parties which in one form or another had shared in government since the second world war. But the Labour-led government includes instead a party of avowed free-marketeers. Spot the difference. And the habit of cosy consensus has flourished even more. With a general election due in May, some fresh thinking will be needed in the centre: a poll this week gave 18% to Mr Fortuyn's party, close behind Labour.

Mr Le Pen is not into new thinking: he has been banging the anti-immigrant drum for decades. But he has a novel problem. It is not the modest 10% or so that opinion polls give him in the first round of the presidential vote on April 21st. He knows he won't reach the second, but that, as things stand, is quite a lot, enough to embarrass the two front-runners, the conservative incumbent, Jacques Chirac, and the Socialist prime minister, Lionel Jospin. The trouble is that Mr Le Pen cannot reach the first round unless he gets 500 elected officials, such as mayors or members of parliament, to sign his nomination papers.

That should be no problem: the National Front leader took about 15% of the vote in 1988 and in 1995. Surely among 36,000 mayors he can find 500 backers?

Not yet, he says. With nominations closing at midnight on April 2nd, Mr Le Pen says “cowards” who had pledged their names have withdrawn—under threat, he says, of “reprisals”, such as a cut in local subsidies. Whose threat? Mr Chirac's party, he says, which is not in central power but does control some regional bodies that distribute cash to town halls.

It may be hokum. But it is true that a first-round vote for Mr Le Pen is likelier, if not by much, to come from a might-be Chirac voter than a might-be Jospin one.

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Ireland after the abortion vote

Ahern loses

Mar 14th 2002 | DUBLIN
From The Economist print edition

But he could have done worse

FOR the Irish prime minister, Bertie Ahern, it was the second rebuff in a national referendum in less than a year. The voters, narrowly, said no to the European Union's Nice treaty last June. The issue this time was abortion, and on March 7th they did it again, albeit by a slimmer margin still: 50.4% rejected a government-backed proposal for further tightening of Ireland's tight abortion laws. Yet a defeat it was, reviving doubts about Mr Ahern's judgment and his ability to deliver a vote.

The proposal would have reversed a ruling from Ireland's Supreme Court, which allows the termination of a pregnancy when there is “real and substantial risk” that the woman may otherwise commit suicide. The figures showed a sharp division of attitudes between town and country. Urban voters, mainly said no; those rural ones who bothered to vote strongly said yes. Outside Dublin the turnout was low.

Yet did Mr Ahern's misjudgment mean a loss of authority too? It seemed not. At the weekend he presided over a successful national conference of his ruling Fianna Fail party, and opinion polls suggest the referendum reversal has done him little political damage.

Fianna Fail is at present in coalition with a small centre-right party, the Progressive Democrats. Between them, say pollsters, looking forward to the general election in May, the two parties hold a huge lead, 21 percentage points, over the most likely opposition alternative.

Even so, the referendum result highlights a disturbing paradox for Mr Ahern. In all, he has lost six by-elections during his government's five-year tenure, and now two referendums. Yet he is Ireland's most popular politician. Still, his party must wonder how he will deliver in May, when it most matters. And so must the rest of the EU. Mr Ahern plans, one day, a second try to get the Nice treaty through. Ireland's EU partners need that. Will they get it?

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Charlemagne

Portugal's passion, Senhor Futebol

Mar 14th 2002
From The Economist print edition

Actually no, it isn't him fighting the election, there are politicians to do that. Shouldn't someone tell the voters?

THERE it is at the very toe of the European Union, far from the centre, farther still once the EU spreads east. In its day master of a global empire, it is now a poor country of 10m people, overshadowed by its big neighbour, Spain. So how is Portugal to haul itself into the future? How even to hold its own, when its main outside source of hauling power, EU funds, is redirected towards new, still poorer members? How to retain its identity, not just within the EU but in a world of globalisation? Fear not, the Portuguese have found a way: football. They will host its European championships in 2004. If not empire, at least national pride is to be restored as admiring foreigners (for three weeks) pour into ten new or renovated stadiums, or watch the fun on screens. Oh, and by the way, the country is about to vote—above all, it seems, to pick which party shall referee the great event.

So at least you might think, from the media coverage of the campaign. For six years a minority, barely leftish, Socialist Party (PS) government has run the country—or rather, say its critics, run from responsibility, trying to please all sides and pleasing none, taking decisions one week and altering them the next. Mauled in municipal elections in December, the prime minister, Antonio Guterres, gave up, abandoning his party's leadership to whoever might want the poisoned chalice. Two likely men said no, before a minister, Eduardo Ferro Rodrigues, picked it up. President Jorge Sampaio called an early election.

Step forward Jose Manuel Durao Barroso, leader, since 1999, of the rival, vaguely rightish, Social Democrats (PSD). Let battle be joined, a clash of Titans over the great affairs of state?

There are plenty of these. By 2004 Portugal is required by EU rules to reach budget balance. It was heading that way, only to fall back last year to a deficit of 2.2% of GDP (or worse, say some economists, over the dreaded 3%, if you do the sums differently), and still 1.8% this year, maybe. In times of slow growth—under 1% this year, says the the IMF—who but the EU might care? But public finance is a genuine problem. The government spends a fat 46-47% of GDP, and too much of that on pay: since the mid- 1990s its payroll is up by 90,000, about 2% of the workforce—one reason, says the PSD, for Portugal's low 4% unemployment rate. So shrink the numbers? Freeze the pay, which for the rank-and-file is often higher than in the private sector? And wider long-term issues loom: welfare (does the guaranteed minimum income enjoyed by 120,000 families breed a dependency culture?), health care, pensions, education—the usual gamut of problems, of private versus public costs, in a greying Europe.

The biggest economic issue is none of these: how to grow rich, on the periphery of Europe? And this when you are short of skills, capital and entrepreneurs to use it, of your own? Portugal has lately aided Continental, a German tyre maker, to expand even as the firm closes a plant in Sweden. It hopes that Pininfarina, a leading Italian design firm, will build a “city” car near Oporto. But it has never matched the tax breaks that brought Ireland so much inward investment, and it lacks one priceless advantage, the English language (and don't say, though you'll be told it, that talking Brazilian is any substitute). And here comes an issue that refuses to die: national identity. Portugal has been a nation for eight centuries. Everyone but the far left knows foreign investment is needed. But not even free-marketeers want takeovers that would carry corporate headquarters and decisions abroad. To the (Socialist) head of now privatised Portugal Telecom, it is “crucial” for the state to retain its “golden share” that prevents such a fate befalling companies like his.

Given such challenges, the clash of debate could go on and on. But has it? Has it hell, lament the media. Football's Euro 2004 took its place. That row began when Lisbon's new, PSD, mayor asked how he was to meet costs due to stadium-building there. Then Oporto's new mayor did likewise. He had inherited plans

for the city's premier (and PS-friendly) club, FC Porto, to build a brand-new stadium. He looked into the road costs, the city coffers and shopkeepers' fear of the big new shopping centre with whose development the club planned to finance its new stadium. Think again, he said. The club hit back: it would halt building work, already under way. At that, the fans hit the street. Meanwhile, a fresh row had flared in Lisbon: the boss of Benfica, one of its two big clubs, avowed that not just he but the entire club backed the PSD—in return, he implied, for favours to be rendered. Already President Sampaio, no less, had called a conclave to sort things out. Here were more faeces hitting the fan.

No Titans they

And where were the Titans in all this? Alas, no Titans they. Portugal's top tycoon wants to learn the two leaders' choices as finance minister: “Neither will appoint strong ministers, because then they'd look weak themselves.”“Durao's a lawyer, Ferro's a bureaucrat,” jeers another voice, overlooking both men's time as ministers. Maybe, but it was still cant for the media to blame them because “it's all about football, not the real issues”. “It” was the journalists' choice. Few raised the real question even about Euro 2004: why run it at all, hurling state aid at ten stadiums of which several will become white elephants the day it is over? Fewer still asked the even bigger question: why pour concrete into construction anyway, rather than, say, better teachers into the country's underperforming secondary schools? Portugal's true dependency culture is between politicians and public-works contractors. The two rivals did in fact often talk to the point—often unheard. Their real fault was that they could not dominate debate. Both would make fine professors; as a personality, Paulo Portas, leader of the small, rightish, People's Party, who lambasts the entire political centre as a mire of incompetence or worse, outweighs the two together.

For the record, the ballot-box kick-off is this Sunday. Expect a PSD win; but probably not with an absolute majority.

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London

Bright lights, big city

Mar 14th 2002
From The Economist print edition

Rex

The capital is already expanding fast, and its growth is likely to accelerate. The prospects look great—and awful

SINCE the days of Dick Whittington, young people looking for opportunity have moved to London, and thanks to liberalisation and globalisation the pull of the capital is even stronger than it was in the 14th century. As a result, concerns about the city's long decline have been replaced by fears of the consequence of its heady growth.

London's population fell from 8.6m in 1939 to 6.8m in 1983. Governments were determined to shift people out of slums into healthy new towns in the countryside, and to divert growth around the regions. Margaret Thatcher, the left-wing city's bogeywoman, was largely responsible for its revival. She wound down interventionist regional policy and overrode councils' objections to allow, for instance, growth to spread eastwards from the City of London to Canary Wharf and beyond.

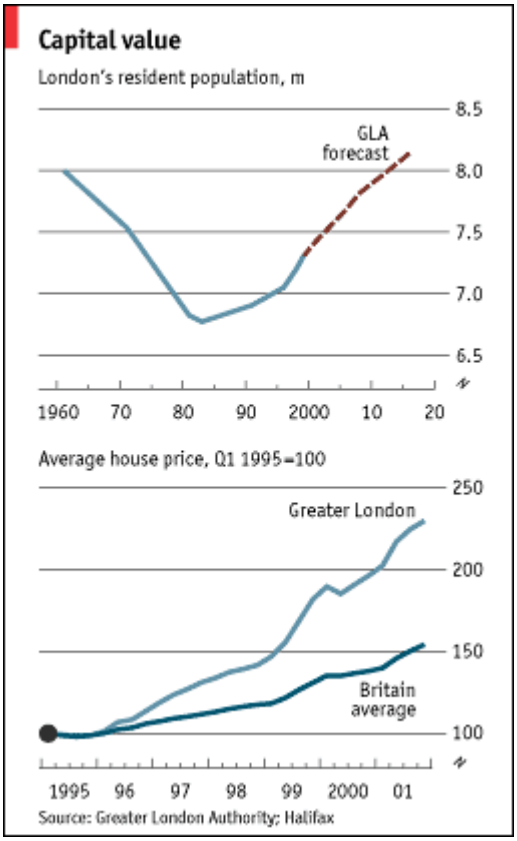
Foreigners have joined the latter-day Whittingtons. “London”, says Tony Travers, director of the Greater London Group at the London School of Economics, “is the only city in Europe where you can get a job that pays you £1m a year, and where you can turn up in the morning as an illegal immigrant and be in work by the afternoon.”

Notwithstanding the Thatcherite liberalisations, many other barriers to London's growth remain. Chief among them are the city's existing residents. Those who live in and around London don't want a flood of immigrants putting a strain on the services. Still less do they want developers building rabbit-hutches on the few remaining bits of green space in the region. Their views are expressed through councils' planning committees, which tend to regard turning things down as their job.

According to a paper published on March 11th by the Centre for Economic and Business Research, some 93,000 new homes are needed in London and the south-east each year; government plans require 62,000 to be built; and the actual number built in 2001 was 35,242. The result, according to a report to be published by the Joseph Rowntree Foundation, a social-policy think-tank, on March 19th, is that there is an “impending crisis” of housing in the south-east.

Not everybody agrees that the failure to build the number of houses that the planners say is needed will lead to social melt-down. After all, London has accommodated a 9% increase in its population over the past 17 years with little increase in its

housing stock. What has happened, as happens with any good in short supply, is that the price has gone up and people consume less. Children stay longer with their parents, people in their 20s share flats, immigrants squash into spaces that would horrify those used to cushier lives. The established population, meanwhile, is delighted to see property prices rocketing beyond those in the rest of the country (see chart), and dreams of ever-nicer retirement homes in the countryside.



Higher property prices do, however, have a downside for Londoners. While the private sector has built them into its pay scales, the public sector has failed to. According to figures from NERA, an economic consultancy, while the private sector pays people in inner London 66% more, on average, than it pays in Tyne and Wear, the public sector pays 32% more. London's schools, hospitals, police force, fire stations, underground system and local government therefore struggle to recruit; their employees struggle to live; public services suffer.

The rising population has also strained the transport system. The roads are clogged; the air the most polluted in any European capital; the underground system creaking. Foreigners marvel at what Londoners put up with to get to work.

Yet London's growth is likely to accelerate. Mr Livingstone, formerly known as Red Ken, seems an unlikely heir to the Thatcher legacy; but he appears as determined to override the hostility to development that runs in the veins of many council planners. Some 15,460 houses were built in London last year. Mr Livingstone plans to increase that to 23,000.

Mr Livingstone has (in theory at least) the power to make it happen. His London Plan, which will have legal status in a couple of years' time, will allow him to force councils to release land for development. Even in London, such land exists, though it isn't always easily available. There are “brownfield” sites—often polluted wasteland which is expensive to clean up and where people don't want to live—and there are low-density areas—leafy suburbs whose inhabitants will resist. But if Mr Livingstone is determined, he'll get his way.

More housing will presumably mean even faster population growth. That will make the transport system still worse. Whether Mr Livingstone can do much to improve it is doubtful.

London's Underground is mired in a shameful row over the arrangements under which responsibility for it will be handed over to the mayor. The government has divided the running of it between the private and the public sector. The mayor, and pretty much everybody else, thinks that the set-up is bonkers, which does not bode well for the system.

Nor is it obvious how new transport schemes are to be implemented. The biggest of those is Crossrail, a planned main-line rail link between west London and the City and beyond. A feasibility study is under way, and Mr Livingstone has all the necessary planning powers to get the thing built, but he doesn't have the money. Crossrail is expected to cost somewhere between £4 billion and £10 billion. Nobody knows how the cash is to be raised.

The tale of the 1980s boom that Margaret Thatcher unleashed in London has a cautionary ending. Canary Wharf, emblem of the city's prosperity, was built without proper transport. Nobody wanted to move there, so the development went bust. Eventually, the transport was built and the development started to work.

London is riding high, now, but there's a danger that the city could be repeating the mistakes of the 1980s on a larger scale. If London gets things wrong now, it will take a very long time to put them right.

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Taxis

Rank disgust

Mar 14th 2002
From The Economist print edition

London's taxi-drivers are up in arms. Time their passengers fought back

LONDON'S taxi drivers scare politicians stiff. The thought of the city's 24,000 cabbies bad-mouthing them to several dozen passengers a day has discouraged successive governments from trying to reform the archaic regulations that protect licensed taxis. So when, 18 months ago, Ken Livingstone took on the responsibility for regulating cabbies and promised to reform the trade, ministers were relieved and the voters applauded.

There are not so many cheers now. The mayor decided to smooth the path of change by giving cabbies the largest fare increase they have ever had, through a surcharge that kicks in at 8pm. London's cabs are now among the most expensive in the world (see chart). Night-time taxi fares have risen by as much as 60%, depending on the length of the journey. Even in the daytime, a journey from Heathrow airport to the centre of the city costs upwards of £40 ($60).

Bill Oddy, general secretary of the London Taxi Drivers' Association (LTDA), strongly defends the increases, and says he is “proud” of London's high ranking, pointing out that more cabs are available for hire than ever before. But even many cab drivers believe that fares have risen too far, too fast. Rodney Lewis, managing editor of the trade paper, *Taxi Globe*, says that the price rises were “appallingly handled”.

The cabbies are even less happy with the parts of the mayor's reform package aimed at increasing the number of drivers. The LTDA has launched a campaign to oppose simplification of “the knowledge”, a test which all drivers have to pass to show they know their way around London. At present, the knowledge involves learning more than 400 routes, a task which takes most applicants at least a year. The new test has been slimmed to 320 routes but Peter Hendy, who is responsible for regulating London's cabs, denies this represents a dumbing-down. The new routes, he claims, are much better distributed to reflect London's new travel patterns, particularly south of the Thames.

Mr Hendy defends the fare increases: he says that prices had to go up if the supply of drivers was to rise. But the shortage of drivers is a consequence of the absurdly tight regulation of London cabs, which imposes other costs on the trade and therefore on passengers. A new cab, for instance, costs £26,000—twice as much as a standard saloon—partly because it has to be able to perform a U-turn in less than 7.62m (25ft). Some regulations, dating back to Victorian times, are aimed at horse-drawn carriages.

Mr Livingstone is meanwhile seeking to regularise London's thriving mini-cab trade, the main competitor to black taxis. So far 1,300 out of 2,000 mini-cab companies have been licensed. The next stage will be to license their drivers, more than 40,000 of them, a task which will inevitably take some time.

Mini-cabs are at least a third cheaper than taxis but they are not allowed to ply for hire on the streets. If Mr Livingstone really wanted to make life easier for Londoners, he would let them. There's no sign that he is going to. The man who took on Margaret Thatcher doesn't have the bottle to battle with the cabbies.

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About sponsorship

Chris Woodhead

The old pretender

Mar 14th 2002
From The Economist print edition

The man who won fame beating up school bosses wants to join them

WHEN he retained Chris Woodhead as chief inspector of schools, Tony Blair took a gamble. Perhaps he thought it would be preferable to have the incendiary chief inspector inside the (big) tent ranting out. Perhaps he thought Mr Woodhead was doing a good job. Since he resigned in November 2000, citing irreconcilable differences, Mr Woodhead's sniping has suggested it might have been better to have made a clean break. In his new book*, published last week, the sniping escalates into a solo guerrilla war.

Mr Woodhead once infamously estimated that 15,000 of England's teachers were incompetent. The change of scene has not mellowed him. His chief regrets concern sins of omission—not having been ruder to teachers and his own colleagues when he had the chance. He allows that there has been some improvement in primary schools, but otherwise his report card is bleak. Too many pupils leave primary school unable to read, and too many leave secondary schools with no qualifications. State education fails bright pupils as well as backward ones.

Like the facts of this malaise—curiously neglected amid the national hand-wringing over the NHS—Mr Woodhead's explanation is familiar, but nonetheless important. The responsibility, according to him, is widely spread: obscurantist educational theory that disdains the transmission of knowledge, and has infected policy; the foolishness of increasing university places without first improving secondary education; the con trick of grade inflation; initiative overload; and, of course, the teaching unions.

Less familiar, though, is Mr Woodhead's remedy—an orgy of abolition. Teacher-training institutions, much of the department of education, local education authorities (LEAS) and the National Curriculum should all be put to the sword. Unsurprisingly, OFSTED, the schools inspectorate that he made so controversial, would survive the cull. In place of all this bureaucracy, Mr Woodhead would like to see a proper market in education, in which parents could choose which (privatised) school their children will attend, financed by a voucher system, such as those adopted in some parts of America. Mr Woodhead argues that such a system would be less unfair than the current one, in which the rich buy their way out of the state system's failures.

To be fair, and although he claims not to bear a grudge, Mr Woodhead is a bit harsh on the government—which has, after all, adopted many of his earlier prescriptions. Tom Bentley—director of Demos, a think-tank, and one of the guilty theorisers Mr Woodhead fingers—points out that the government's standards agenda “reflects the consensus that he helped to form in the early 1990s”. Like Mr Woodhead, ministers are keen to expand vocational training (though he thinks they are blurring the distinction between the vocational and academic); and, as Mr Woodhead wants, they are making a stab at introducing performance-related pay for teachers (“a pathetic stab”, according to him).

Still, Mr Woodhead is prepared to put other people's money where his mouth is. He is raising capital to establish a “branded” chain of no-frills, low-cost independent schools; and he wants his new company to bid for contracts to take over failing schools and the support services currently provided by the LEAS (which he wants to abolish).

So he will be hoping that the government doesn't bear a grudge either. In 1999, he remarked that relationships between teachers and pupils could be “educative”— true, but impolitic, given that Mr Woodhead himself once had an affair with a former pupil. Ministers could theoretically use that indiscretion to prevent him running his own schools—though this might seem odd, given that they were once content for him to inspect them.

But ministerial vendettas may not be the only obstacle to the ex-chief inspector fashioning the nation's

schools in his image. The demand for low-cost private schooling certainly exists, but it may not be easy to turn a profit with the sort of fees he is mooting. Educational outsourcing may grow, but companies working with the public sector have struggled with complex and lop-sided contracts. Perhaps Mr Woodhead needs vocational training.

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* “Class War”: Little, Brown 2002

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About sponsorship

Government and the City

Byers premium?

Mar 14th 2002
From The Economist print edition

The terms of trade between the government and the City have changed

Reuters

The City's bugbear

THE fall-out from the decision in early October by Stephen Byers, the transport secretary, to put Railtrack into administration continues. On March 6th, 22 leading fund managers claimed that this action had increased political risk and would therefore raise the cost of doing business with the government. Not so, retorted Tony Blair and Mr Byers, denying that the decision has affected the principal type of business—public-private partnerships in which private capital finances new investment projects and related operating services. And not so, say the top accountancy firms that help to put together such deals. They argue that these contractual arrangements are quite different from the status of a privatised utility like Railtrack.

But they would say that, wouldn't they? The fund managers are furious that they, along with private investors, lost so much when Railtrack was put into administration. The government wants to ensure that Railtrack does not derail its plans to use private money to build hospitals and modernise the tube. Big accountancy firms get a lot of business arranging these “private finance initiative” (PFI) deals.

So who's right? Pointing to the number of deals recently concluded, as Mr Blair has done, is not really the answer. What is at issue is their price. However, PFI arrangers like PricewaterhouseCoopers say that the financing of deals signed since Railtrack went into administration has not become more costly. “There has been no interruption to the flow of deals and no increase in margins,” says Tony Poulter, head of project finance at PWC.

That sounds convincing enough—but it begs the question: what kind of deals? The PFI agreements signed since early October have mainly been property-based ones like schools. But the really big PFI deals have been and will be in transport, now under the shadow of Railtrack. These arrangements, like the proposed PFI deals to modernise the London Underground, are far more complicated. The contracts for the tube run to over 3,000 pages.

The more complex the underlying nature of the project, the more scope there is for uncertainty. Simon Haslam of Fidelity Investments, who chairs the action group of Railtrack shareholders seeking redress from the government, says that it is in these more complicated deals that the impact of the Railtrack decision is being felt. “What we are seeing is a significant change in either the risk premiums or a demand for much tougher guarantees,” he claims.

Michael Wilkins, in charge of the European infrastructure group of Standard & Poor's, the credit-rating agency, accepts that the contractual arrangements of PFI deals make them distinct from Railtrack. But he says that the buzzword in PFI arrangements is now “partnership strengthening”—a euphemism for securing them against political interference. “This carries a hidden cost,” he says. “The government's flexibility has been greatly reduced.”

Any loss of flexibility may come back to haunt the government. In the private sector, agreements to provide services are generally short, to keep providers on their toes. But the government is signing agreements with contractors for services over periods that typically last at least 25 years.

The cost of the Railtrack decision may not be turning up in higher costs of financing PFI deals. But if it materialises in more restrictive conditions for the government, that will still add up to a Byers premium.

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Digital television

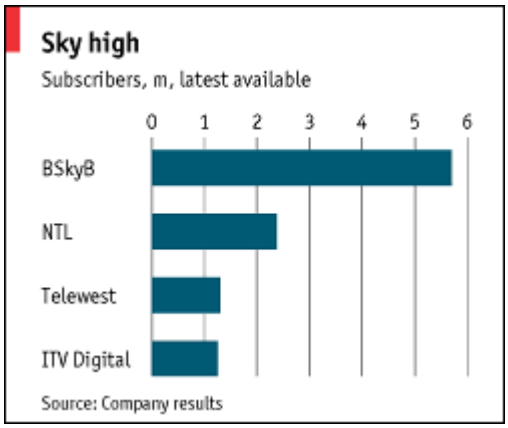
Down the tubes

Mar 14th 2002
From The Economist print edition

Fears of a tightening Murdoch grip are behind worries about the state of ITV

IT IS hard to overstate the depth of the black hole in which Granada and Carlton, the two main operators of the ITV licences, now find themselves. Advertising revenues at ITV were down 12% in the five months to March on the same period the previous year. In 2001, the BBC overtook ITV in the ratings, for the first time ever. And ITV Digital, their jointly owned and loss-making digital pay-TV operation, is draining money by the day. Yet, curiously, among those keenest to restore ITV's health are not only the two companies' shareholders, but the BBC and the government too.

The BBC is now fretting not only that the most powerful man distributing its three new digital channels is Rupert Murdoch—but that his grip will tighten. BSkyB, the hugely successful satellite-TV operator he controls and whose signal is wholly digital, towers over Britain's pay-TV market, with 5.7m subscribers. This dwarfs the other pay-TV operations, run by Telewest and NTL, two heavily-indebted cable-TV operators, and ITV Digital itself (see chart). Half the point of the recent launch of the BBC's new digital channels was to persuade people to get digital TV before the government switches off the analogue signal in around 2010. For now, those who want it must choose between struggling cable and digital terrestrial platforms, an expensive digital TV-set—or the prospering Mr Murdoch. By 2010, when even BBC1 and BBC2 will be digital only, this choice could be slimmer still.



What can the BBC do to help prop up ITV Digital? One idea, discussed by ITV and the BBC, is to promote jointly a cheap set-top box through which viewers can get free, terrestrial digital channels. Indeed, at the end of this month, one set-top box that offers this facility will already be in the shops, priced at under £100. This box will enable the BBC to reach people who, for reasons of cost, snobbery or principle, do not wish to subscribe to pay-TV. The reason it could help ITV Digital is that such a box will incorporate a slot for a smart card, with which viewers could choose to add pay-TV. If viewers bought their own boxes, this would save ITV Digital the cost of subsidising them, and might enable it to supply pay-TV at a lower price.

For its part, the government is no keener to see BSkyB tighten its hold over digital distribution. This was not its original vision of a thriving competitive market that would take Britain into the digital age by 2010, and so free up the analogue spectrum to be auctioned for other purposes. Yet, as Tessa Jowell, the culture minister, stated again this week with reference to ITV Digital, it is not her business to intervene in a company's operating difficulties. Ms Jowell did, however, confirm that, as part of a broader review, she plans to lift the rule that currently prevents the creation of a single ITV company.

While the latest negotiations between Carlton and Granada have broken down, the possibility of a merger is not exhausted. Were the government to allow the pair to combine, the cost savings at least in the short term might be worth £60m-70m a year, according to Mathew Horsman, at Investec Henderson Crosthwaite. This might better enable them to sustain ITV Digital's losses—the venture has swallowed £800m so far—while trying to revive it.

Last month, the two companies, which have agonised for months about whether to pull the plug on the operation, announced that ITV Digital would collapse unless it restructured its costly programming deals: mostly importantly, the TV rights for sport. Currently, ITV Sport lures about the same share of viewers as the Biography Channel.

There is also the prospect that RTL, a big pan-European broadcaster owned by Germany's Bertelsmann, might clamber back into the game. In the past, Bertelsmann, run by Thomas Middelhoff, has held talks with the ITV companies. Bertelsmann has been put off precisely because of the draining cost of the ITV Digital venture. Shame: the prospect of a German media giant rescuing Britain's digital TV from the grip of an Australian-American media mogul would be an intriguing one.

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Policing

Please police me

Mar 14th 2002
From The Economist print edition

Myths and misconceptions about race and policing

DESPITE (or perhaps because of) the fact that it has been a source of rancour between the police and black people for decades, the frequency with which suspects are stopped and searched has come to be seen as a measure of police virility. On the face of it, that seems reasonable: since the Metropolitan police was described as “institutionally racist” by an influential report in 1999, there has been a sharp rise in street crime in London and an equally sharp fall in the number of police searches. This week, David Blunkett, the home secretary, published new guidelines to govern police stops, with the implication that this would enable more of them to be performed. In fact, it may do the opposite—which, given the actual evidence on the efficacy of stop and search, may not be a bad thing.

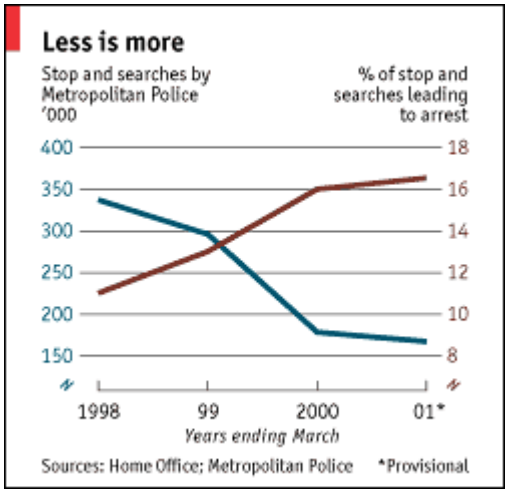
Under the new guidelines, which are based on a recommendation of the 1999 report, every time the police stop and question someone—whether or not they are searched—they will have to make a record of the incident and issue one to the person stopped. Rather than winning back the confidence of ethnic-minority communities, so enabling the police to stop and search more suspects, this new system may well prove such a bureaucratic burden that fewer suspects will be waylaid.

That may disappoint the editor of a leading black newspaper, who argued last week that more stop and search would be a price worth paying to control violent crime. Others in the black community agreed—surprisingly, given that when William Hague, then leader of the Conservative Party, voiced similar views in December 2000, he was denounced as a racist demagogue. But it is understandable that many black people want something to be done: in 1999, they were three times more likely to be mugged than whites.

However, two misconceptions inform the enthusiasm for more stop and search in the black community and beyond. The first is the idea that, in the last few years, the Met has been hamstrung by racial hypersensitivity. Street robbery is disproportionately committed by black youths, and there has indeed been a big fall in the number of black people stopped and searched—but there was an even sharper fall in white searches. In the last financial year, the number of black people searched in London and across the country rose, whereas the number of white searches continued to fall. Nationally, blacks are now seven times more likely to be searched than whites.

The other misconception is that more stop and search will resolve the problem of street crime. Mr Blunkett claims that it can be “particularly effective” against street robbery. But Home Office research suggests that such searches are much better at uncovering offensive weapons than at finding stolen property. It also concludes that stop and search has only “a minor role in detecting offenders”; that it has only a limited disruptive impact on crime, and that there is little evidence to believe it has much effect as a deterrent.

As it happens, judged by the number of arrests it yields, stop and search seems to have been more judiciously targeted and effective, in London and elsewhere, in the past few years (see chart). Likewise, when the number of searches increased dramatically in the early and mid- 1990s, the proportion which lead to arrests fell. Police forces that do fewer searches tend to make a relatively higher number of arrests. In terms of both effective policing and race relations, fewer seem to mean more.



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Marriage

A runaway success

Mar 14th 2002 | GRETNA GREEN
From The Economist print edition

New legal succour for Gretna Green's big business

THE hotch-potch of houses and hotels beside the M74 motorway that make up Gretna Green, just north of the Scottish border, does not look terribly romantic. Indeed, the town was mostly built by the ministry of munitions in 1915 to house local bomb factory workers. These days, however, the place thrives on weddings and, thanks to a change in the law, the marriage industry is about to get busier.

Remarkably, Gretna Green's 3,000 people manage to host about 5,000 marriages a year, 17% of all weddings in Scotland, all because of legal peculiarities. In 1754, England banned marriages except in church and said that no-one aged under 21 could marry without parents' permission. But Scottish law said that anyone aged 16 could marry if the parents liked it or not and that marriages could be carried out by anyone, not just churchmen. So young lovers eloped northwards, and by the 1850s the marriage industry at Gretna, the first stagecoach post across the border, was in full swing. Blacksmiths made fortunes marrying couples over their anvils. But spoilsport law changes curbed this enterprise; by 1975, fewer than 100 marriages a year were held.

In the 1980s, a fashion for romantic weddings caused trade to boom again, and Dumfries and Galloway council expanded Gretna's civil marriage office. “We can do 21 weddings a day, 30 on Valentine's Day,” says Alison Quigley, the chief registrar. The council's wedding website lists 47 places to stay, 17 photographers, 12 car-hire firms and sundry florists, hairdressers and kilt hire shops making a living from weddings.

In recent years, however, the council noticed that its civil wedding numbers were falling, while religious weddings were on the rise. The reason, it turned out, was that, encouraged by such role models as Madonna, who had a matrimonial blow-out in the Highlands, people wanted more romantic venues than the registry office. The law confined registrars to their offices but ministers could wed people anywhere. Now a new Scottish law will allow registrars the same freedom. Dumfries and Galloway is already recruiting more of them.

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About sponsorship

Bagehot

Blairism and “Blairism”

Mar 14th 2002
From The Economist print edition

A parting shot

NEWSPAPER columnists are more wont to call for the resignation of others than to announce their own. But next week the hand that has filled this pseudonymous space over the past four years passes his pen to a new and sprightlier Bagehot. This is therefore a chance to do something that journalists do even less often than governments. It is a chance to say sorry.

The chief apology is owed to Tony Blair. If journalists suffer from a professional deformation it is to accentuate the negative. As a result, many admirable aspects of “Blairism” have gone uncomplimented here since 1998. This is the time to make amends.

All a question of phaseology

Those inverted commas around “Blairism” are a convenient place to start. Why are they there? Even in the 1980s, when it was new, nobody bothered to put Thatcherism in quotation marks. Perhaps that is because even in the 1980s everyone could see that Thatcherism meant something, and what that something was: privatisation, deregulation, a preference for personal effort and responsibility rather than collective solutions.

No comparable spine of philosophy or policy connects together the actions of Mr Blair's government. During his first term, his attempts to create one by investing so much time and nonsense in his ineffable “third way” prompted much wicked mockery. Earlier this month, the mockery resumed when a donnish Labour backbencher asked Mr Blair during prime minister's question time to explain what his political philosophy was. The question seemed to stump him. This week, perhaps to make up for having been stumped, Mr Blair gave a speech to a friendly but puzzled audience at the London School of Economics, explaining that the party had explored the third way during its first term and was now entering the “third phase” in its second.

For those still concentrating, the prime minister's latest theory of phases goes as follows. Phase one consisted of turning Labour into a modern centre-left party after its defeat in the 1992 election. Phase two, after winning power in 1997, was “to put in place the foundations that would allow us to change the

country in a way that lasts." Phase three (this is now) "is about driving forward reforms and building a better society".

Is this theory something that Mr Blair had mapped out back in 1992? Or is it an idea he scribbled down in a rush this week to give what he has done and left undone since then a spurious retrospective logic? Best not ask, especially here: columnists find spurious retrospective logic oddly useful at times. Besides, this article is an apology, the main gist of which is that, for all of Mr Blair's bewildering phase- and phrasemaking, Blairism does mean something. Moreover, like Thatcherism, it will be remembered for meaning something 20 years hence.

In 20 years, the present Labour government will be remembered for the big changes Mr Blair made to Britain's constitution: devolution, half-reform of the House of Lords and all the rest. But it is not this that people will call Blairism. He himself has never shown much interest in all those reforms, most of which sprang from promises he inherited with the leadership of his party. And most were fixes for individual political problems—the rise of Scottish nationalism, or the built-in Tory majority in the upper house—rather than parts of a thought-through vision of how Britain should be governed. Blairism will refer to the deliberate revolution Mr Blair made in the nature of competition between the political parties, not the semi-inadvertent revolution he made to the nature of government.

By turning Labour into New Labour, abandoning socialism, befriending business and promising not to squeeze the rich, Mr Blair has done more than build an election-winning party. He has broken the tribal pattern of British politics in just the way the Social Democrats who broke away from Labour in the 1980s hoped but failed to. Some of the results have been comic, as when Mr Blair could not remember where, with tribes abolished, the foes that all politicians occasionally need were now to be found. At one point he identified them as "forces of conservatism" that stretched all the way from the party of the same name, through the killers of Martin Luther King, to nurses and teachers who would not change their ways.

Bagehot apologises for noting the foolishness of that speech without paying enough heed to the brave part of it, namely Mr Blair's willingness to declare as his enemies the public-sector workers and unions who had assumed complacently that they would be safe under a Labour government. The prime minister has tried to keep the pressure on them. By finally breaking the old relationship between Labour and the interests it was created to represent, Mr Blair has twisted the whole of British politics into a new shape. It is the system he broke rather than the machine he built that makes his premiership so interesting.

As for the others...Bagehot apologises to the chancellor of the exchequer. This column has never dared question the ability of Gordon Brown, but like too many others fell into the habit of interpreting almost everything Mr Brown did by reference to his presumed and still-thwarted ambition to be prime minister. If Mr Brown wants his boss's job, that makes him the rule not the exception among British chancellors; and in politics everywhere personal ambition is often the servant of the public good. Sorry, William Hague, for having forgotten about you already, despite the memorable fact that if the Tories had not collapsed, you might have become the youngest prime minister since Pitt the younger (or was it the older?). Sorry, Iain Duncan Smith, for—well, for the state of the party Mr Hague left you. And apologies galore to the Liberal Democrats, who scooped up two out of ten votes cast in June's general election but were written about in fewer than one out of 20 Bagehots. It is only Britain's outrageous first-past-the-post voting system that makes such neglect possible, and Bagehot is sorry for failing to say so.

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OPINION

A lemon law for software?

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If Microsoft made cars instead of computer programs, product-liability suits might by now have driven it out of business. Should software makers be made more accountable for damage caused by faulty programs?

EVENTS of the past six months have shown just how fragile the industrial world's technological infrastructure can be. No question that terrorism can bring business districts, power grids, computer networks or air-traffic-control systems to their knees. But so, too, can stupidity, carelessness and haste. Indeed, from *Titanic* to Chernobyl—and in nine out of ten accidents in the air and on the road—human error has accounted for vastly more fatalities than malfunctioning parts or sabotage. Unfortunately, that is about to get even worse.

There is no escaping the trend towards replacing slow, cumbersome yet ultimately reliable bits of machinery with cheap, quick and compact “fly-by-wire” controls that are managed entirely by software. All well and good—except that there is no such thing as a bug-free piece of software. Even experienced programmers make on average one error for every ten lines of code. And all it takes is three or four defects per 1,000 lines of code for a program to start doing unpredictable things. With commercial software containing not thousands but increasingly millions of lines of code, the potential for disaster is all too clear.

Software defects would be bad enough if all they did was require the hardware to be reset. But defects invariably provide security holes for malicious hackers to exploit. Making matters worse, instead of working to close security holes in their existing products, software firms tend to cram more and more features into their programs to entice customers to buy the latest upgrades.

Yet software does not have to be so vulnerable. Techniques such as “extreme programming” or the “five-step capability maturity model” which require programmers either to work in pairs or to follow rigid sets of rules, can produce remarkably clean code first time round.

But the disciplined approach is alien to the software industry's quick-and-dirty culture. Software firms prefer to bash out code and then try to catch as many bugs as possible while racing to ship the product. Unfortunately, that means that customers end up doing much of the quality-assurance work—as they track down and report errors, install security patches and buy upgrades. According to the Standish Group, a market-research firm, faulty software cost American firms $100 billion last year.

After a sequence of embarrassing flaws that have made many of Microsoft's flagship products crash or become vulnerable to attack, the company's chairman, Bill Gates, recently instructed his firm's software developers to put security and privacy above all else. Fine words. But Microsoft has a record of being slow to correct gaping holes in its software and being quick to criticise security experts for publicising them. However, whistle-blowers have a greater responsibility to users, who need to know immediately if the software they depend on to run their businesses, banks or hospitals is compromised in any way. After all, users are on their own, with little in the way of legal redress for any damage caused by faulty software.

Ship and forget

Unlike makers of cars, cookers, medical devices or anything else, software companies in America and elsewhere are in effect exempt from product-liability and “lemon” laws. They evade responsibility for the quality and safety of their goods by selling licences to use them, not to own them, with a long list of disclaimers if customers open the packet.

A panel of experts at the National Academy of Sciences in Washington, DC, wants legislation introduced to end the software industry's special exemption from product-liability suits. But, if anything, American lawmakers seem bent on giving the software industry even more protection. The Uniform Computer Information Transactions Act, already enacted by Maryland and Virginia, allows software producers to escape liability for damages caused by defects that they knew existed when the software was shipped, and to prevent customers from openly criticising the product.

Many believe this is going to have a chilling effect on innovation and competition—to say nothing of accountability—within the software industry.

Readers wishing to express their own views on the topic are encouraged to do so at www.economist.com/forums/tq.

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MONITOR

Sun stroke

Mar 14th 2002
From The Economist print edition

Sun Microsystems—the largest maker of servers for computer networks—is about to turn its mantra, "The Network is the Computer", inside out. Will the new vision relegate centralised servers to the scrap heap?

HISTORY repeats itself, even in the computer business. Decades ago, Unix programmers formulated ways of getting the most out of their computers by tapping storage drives, memory and processing power from countless locations around the network. That way, they hoped to squeeze out every bit of power for their number crunching. In the process, they created a virtual computer—albeit a relatively slow one by today's standards—with its innards scattered about the office or campus.

The idea is fast coming back into vogue, as a host of high-tech firms start unveiling distributed computing efforts of their own. All of them aim at tying disparate computer systems together to create a system that behaves like a single unit. This time, however, the goal is to create new capabilities instead of simply borrowing resources.

Over the past year, IBM, Compaq and Hewlett-Packard have all unveiled integrated distributed computing efforts, seeking to sell products and services that take advantage of this emerging technology. Yet by far the greatest convert to the new religion has been Sun Microsystems—long the stalwart of network computing with the mantra, "The Network is the Computer". But the way things are going, that slogan could soon be "The Computer is the Network".

In February, Sun outlined its vision for computing within data centres, the highest performance computer market. The initiative, called N1, borrows from all the distributed computing work going on within the company. At its most basic, N1 is a network architecture that builds a computer out of countless bits and pieces scattered around the network. It employs many of the same protocols used on the Internet itself, and combines both hardware and software to achieve its effect.

At the heart of it all is an effort to "virtualise" computing systems, turning servers and file storage systems into buckets of computing power that can be connected like Lego blocks and managed just as easily. In doing so, N1 allows computers and storage systems to be assembled into a much larger system that can be treated as a single unit. As Sun's chief technology officer, Greg Papadopoulos, notes, this was the same thinking behind operating systems such as Unix, which was designed by some of Sun's top executives in the 1970s to manage separate pieces of hardware as if they were all part of a single computer.

For Sun, the initiative emphasises the company's head-long dive into distributed computing. Long a pet topic of Bill Joy, Sun's co-founder and chief scientist, a host of distributed computing initiatives is being pursued within the company. Last year, Mr Joy launched Project JXTA (pronounced “Juxta”), a peer-to-peer computing effort which is seeking to provide the wherewithal for connecting together countless devices ranging from personal computers to refrigerators. Ultimately, Juxta resembles an open-source operating system for peer-to-peer computing, providing a stack of protocols that will allow all computers to find and connect to one another without any form of centralised help.

In the same spirit in which N1 was launched in February, Mr Joy started Juxta in order to create an industry standard for peer-to-peer computing—and, in the process, encourage the development of new peer-to-peer applications. Juxta is seeking to build a peer-to-peer platform that is available to any developer who wants to create applications on top of it. Sun has enlisted a group of programmers from CollabNet—one of the more prominent communities of volunteer developers and hackers—to help produce the software.

Today, Juxta uses a stack of six protocols, based largely on the XML (Extensible Mark-up Language), the programming language used to define a web page's layout and subject matter. In Juxta, the protocols let individual computers (ie, peers) do various things, such as advertise their presence and resources they possess; locate other peers; inform one another about the status of other peers; let various peers organise themselves into teams; establish “pipelines” throughout the peer community; and allow two or more peers to borrow a pipeline so they can send private messages back and forth securely. Underlying all the protocols is a security mechanism that prevents anyone from listening in.

The community aspect of Juxta has turned out to be more complicated than expected. Unlike a corporate group of software developers, CollabNet brings together a ragtag assortment of crack programmers who volunteer their services for the prestige and personal satisfaction. That makes the effort inherently political and far slower than a commercial one. “Grassroots movements aren't easy to organise,” says Mr Joy. Working together has been a sobering experience for both sides. Nevertheless, Sun has found that collaborating with the open-source community has helped the technology get into lots of hands quickly, causing countless tinkerers to look at ways of using Juxta in their own software programs.

But what do a project aimed at the highest performance end of computing and one aimed at the lowest have in common? Quite simply, they both rely on the fact that countless types, shapes and sizes of devices will soon be communicating with each other. The concept of distributed computing—ie, peer-to-peer networking—has gained popularity thanks to the explosion in computing power, the arrival of broadband networking for the masses, and the widespread access to the Internet. Now that personal computers have more muscle than the brawniest supercomputer of little more than a decade ago, and even the simplest microprocessor-controlled widget has enough spare processing clout to connect directly to other devices without outside help, the time has come to start thinking about ditching the central organisation that has ruled network computing from the beginning. Freed of such network bureaucracy, computer systems actually become more robust, more reliable and perhaps even a good deal more secure.

Whether they know it or not, some 70m people have been enjoying this kind of network freedom for several years. All those who use an instant-messaging service (eg, AOL Instant Messenger, Yahoo! Messenger and MSN Messenger) to zip messages around the Internet are communicating directly with one another via a peer-to-peer network with almost no central control whatsoever. Likewise, all those who used Napster, the now dormant music-sharing service, were doing the same. The arrival of N1 and Juxta simply raises the stakes—making distributed networking that much more ubiquitous and easier to use.

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MONITOR

Power play over fuel cells

Mar 14th 2002
From The Economist print edition

Government and industry have joined forces in California to thrust stationary fuel cells into the public eye and on to the grid

SHORTLY after a wave of power cuts rolled through California in 2000, Scott Samuelsen, an engineering professor at the University of California in Irvine, and director of the National Fuel Cell Research Centre, started getting frantic telephone calls from all round the state. Business owners, heads of school districts and county representatives wanted to know how they could cut crippling electricity bills (which had in some cases shot up by nearly 60% in six months) or sidestep scheduled blackouts which were costing some companies millions of dollars in lost revenue.

AP

Powered by hydrogen?

Dr Samuelsen might have suggested conservation or—if things got really desperate—buying colossal diesel generators to keep the lights on during the outages. But his callers were not interested in yesterday's solutions. They wanted something new and pressed the engineering professor for an answer. Could the latest breed of large-scale stationary fuel cells, they asked, solve their energy problems once and for all? Fuel cells use hydrogen from various fossil fuels to drive an electro-chemical reaction that produces electricity, with water as the sole by-product.

As the blackouts continued into early 2001, Dr Samuelsen logged nearly 1,000 calls from organisations interested in installing stationary fuel cells at their sites—in business parks, universities, hotels, schools, high-rise office blocks, apartment buildings or shopping malls. At the time, most stationary fuel-cell manufacturers were working on prototypes and demonstration systems. Few were capable of mass-producing fuel cells for widespread electricity generation.

In June 2001, Dr Samuelsen and a group of state representatives formed the California Stationary Fuel Cell Collaborative. Their goal: to encourage fuel-cell manufacturers to speed up developments. The incentive offered: a $400m pledge from the California Consumer Power and Conservation Financing Authority (now known simply as the California Power Authority, or CPA for short) to invest in stationary fuel cells, aggregating purchases on behalf of all government agencies and integrating the technology into the state's power grid.

David Freeman, CPA's chairman and a former energy adviser to President Jimmy Carter, is out to make California a national showcase of stationary fuel-cell technology. To do this, CPA is putting up the money not only to buy the latest equipment but also to build modern factories for mass-producing the next generation of equipment. But if fuel cells are to compete with other forms of power generation, Mr Freeman insists that manufacturers must trim costs and boost reliability. In short, their price-

performance ratio has to get a lot closer to that of a conventional turbine plant.

A group of 18 state and federal agencies is now pooling resources, money and brainpower to hasten the commercialisation of stationary fuel cells. Their support led to the publication in January of CPA's first “bidder's list”, a register of 15 fuel-cell firms—including Plug Power, Siemens Westinghouse, and FuelCell Energy—that will be asked to draw up formal proposals to install stationary fuel cells throughout California. CPA will then award its first round of contracts later this spring.

With continued funding over the next three years, Alan Lloyd, chairman of the California Air Resources Board (and a co-chairman of the collaborative with Dr Samuelsen), expects fuel cells to be generating at least 500 megawatts of power across the state. That may be only a tiny fraction of California's 50,000-megawatt appetite. But it is a “giant first step” for the fuel-cell industry, says Dr Lloyd, and one that could persuade other states to join in.

Before that can happen, however, stationary fuel-cell manufacturers must make their plants a lot cheaper, smaller and more robust. At Plug Power, fuel-cell engineers are moving in that direction with a PEM (proton exchange membrane) fuel cell designed to work with an uninterruptible supply of fuel. Like other fuel cells, PEMs rely on hydrogen, which has to be extracted from fossil fuels or water. Plug Power's fuel cells include a “reformer” to separate hydrogen from natural gas. Right now, Plug Power is developing a five-kilowatt system that eliminates the reformer and cuts the cost and overall size of its PEM cells.

Scott Wilshire, a director at Plug Power, says that Los Angeles is one of the few cities in America that have installed hydrogen pipelines to service various oil refineries and chemical plants. These could be tapped to feed Plug Power's new hydrogen-fuelled PEMs. A series of compact PEM plants could be located at a refinery or along the pipeline, siphoning hydrogen to deliver five kilowatts while recycling heat to warm buildings.

At Siemens Westinghouse, fuel-cell engineers want to shrink their stationary plants as well. The company builds solid oxide fuel cells which, operating near 1,000°C, extract both hydrogen and carbon monoxide from natural gas internally, spurring the electro-chemical reaction without the need for an expensive and inefficient external reformer. Raymond George, the head of stationary fuel-cell technology at Siemens, talks of a fully self-contained solid oxide fuel-cell plant that could deliver 500 kilowatts of power, but still remain small enough to be transported on a truck. If a particular site needs more power, several fuel cells could be daisy-chained into a mini-grid system. But first, he says, there are valves, meters, piping, external fuel reformers, an electrical inverter for converting direct current to alternating current, and a myriad other add-ons that have to be incorporated into the overall unit.

Within ten years, proponents expect “distributed generation”—which locates smaller plants closer to demand, rather than piping electricity hundreds of miles from turbine-based power stations—to handle up to 20% of California's energy needs. Even with new, clean-burning microturbines, photovoltaics and wind power taking on some of that load, it is still asking for a lot from stationary fuel cells. A good deal of public support will be needed, says Dr Samuelsen, if the goal is to be achieved. The tough part, he says, is showing off the benefits of stationary fuel cells. That they have no plumes of smoke, no turning parts, no 700-foot high dams, and no noise to upset people is bound to go unnoticed.

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MONITOR

Plug and play at home

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Having learned from their previous mistakes, firms making computer networks that piggy-back on a building's electrical wiring are due to re-enter the home networking business with a vengeance

CONFERENCE organisers at the consumer-electronics show in Las Vegas in January wired 1.2m square feet of floor-space with more than 20 miles of data and telecoms cables. The purpose was to allow the tens of thousands of exhibitors to stay in touch with their headquarters from the exhibition floor. Yet the organisers might have saved themselves some legwork, and a lot of money, had they installed one of the many wireless home-networking systems that dominated their own exhibition.

The most lauded of these schemes, known technically as 802.11b (and, more popularly, as WiFi), is a hardware specification that lets even the most technically inept set up a robust home network without having to string endless feet of Ethernet cable around the house. Until recently, radio-frequency, infra-red and other forms of home networking could not compete with 802.11b's blazing speed (up to 11 megabits per second) and ease of use. Now several firms, including Phonex Broadband, Linksys, NETGEAR and SMC Networks, have announced a new generation of networking products that can transmit vast amounts of data over a home's existing power lines.

Engineers at Phonex have been pioneering what they call “powerline carrier” technology for more than a decade. But earlier contraptions could only extend the range of a single modem or phone-jack, and data speeds rarely beat that of a typical dial-up connection (56 kilobits per second). With this latest class of products, the technology has matured so that it can provide high-speed data networking over power lines and compete with (even surpass) the reliability of 802.11b. In April, Phonex's $129 “NeverWire 14” unit will hit the shops, making it the first member of the HomePlug Powerline Alliance—a coalition of 90 firms developing powerline networking devices that operate over a unified standard—to ship a product that attains genuine Ethernet speeds (10-100 megabits per second).

When a NeverWire 14 device is plugged into a power outlet and wired to a dial-up landline, DSL (digital subscriber line) connection or cable modem, users can add up to 16 additional nodes and transmit data between all the devices, and the Internet, at speeds of up to 14 megabits per second (hence NeverWire's “14” moniker). When energy-hungry appliances such as refrigerators or hair-dryers siphon off too much power, a clever microchip inside the NeverWire 14 adjusts transfer speeds to ensure that no data are lost en route. The chip is made by Intellon Corporation, a member of the HomePlug Powerline Alliance and an early leader in designing semiconductors for powerline carrier technologies. Intellon has logged some $40m in orders for its PowerPacket chipsets from companies planning to launch powerline networking devices during the coming year.

Each NeverWire 14 node also includes a 56-bit encryption mechanism hardwired into the device, making the network secure from outside tampering. (Without that, anyone within a neighbourhood's electrical grid who had the expertise and special tools could tap into the network.) When the initial “master” unit is activated, it generates an encryption key, says Jess Howe, a Phonex engineer. Other units that are attached to the network then become “slaves” and request encryption keys from the master node. Once the master and slave connect, the nodes set up a local network that remains secure even after a power failure.

Analysts at the Yankee Group, a consultancy, expect some 12.4m Americans to kit out their abodes with some form of home networking in the next 12 months. Tom Reed, president of the HomePlug Powerline Alliance, reckons that Phonex-type systems—those that attain Ethernet data rates and include a decent encryption technology—will manage a sizeable proportion of those wired homes. However, he does not expect to compete with makers of 802.11b-powered devices. Increasingly, he believes homes will

embrace both forms of networks: 802.11b serving mobile devices such as PDAs and laptops, with desk-bound computers and other pieces of fixed equipment operating over the building's electrical wiring.

Manufacturers of networking devices like to point out that the term “wireless” does not actually mean that. At some stage, all home-networking devices must be hardwired into a landline that connects to the Internet. Even 802.11b needs some wiring—from the DSL or cable modem's Internet access point to a centrally located “base station” that broadcasts the wireless network around the house. At least with a powerline network, say members of the HomePlug Powerline Alliance, no new wires are required. Combine that with 14-megabit speed and 56-bit security, and the HomePlug makers believe they have a winner.

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MONITOR

Soft as silk, strong as steel

Mar 14th 2002
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Spider silk is a far better engineering material than conventional silk, but harvesting it commercially has been a problem until now

Bullet-proof

SPIDER silk—like DNA, bird wings and oyster pearls—is one of nature's wonders. Smooth, shiny and flexible, it is also extremely light. Thousands of metres of spun silk typically weigh no more than a gram. And the wonders do not end there.

Dragline silk, used by spiders to create the structural frames of their webs, is nearly as strong as Kevlar, yet significantly more elastic. Minor ampullate silk, another of the half-dozen varieties, is a little weaker but has virtually no elasticity. When stretched, it remains at its new length—like pulled toffee. Then there is flagelliform silk, which spiders use to catch flying insects. This type of silk reverts to its original shape, even after being expanded to more than twice its initial length.

For more than a century, researchers have dreamed about using properties of spider silk, which are more varied than those of silkworm silk. The problem is that spiders are not like silkworms, which can survive peacefully in close quarters as long as they are fed a steady supply of mulberry leaves. By contrast, spiders are too aggressive and territorial to domesticate. “It's like farming tigers—they eat each other,” explains Jeffrey Turner, boss of Nexia Biotechnologies in Montreal. But thanks to advances in molecular biology achieved by a team at the University of Wyoming, Nexia is now developing a process for manufacturing spider silk without having to deal with the prickly arachnids.

Over the past decade, Randy Lewis and his colleagues have managed to sequence and clone the genes that code for the key proteins in four different types of spider silk. Once the genes had been determined and replicated, the Wyoming group inserted them into bacteria, which proceeded to make the right proteins. Unfortunately, the quantities produced were too small to be commercially useful. In the meantime, however, Dr Lewis had licensed his technology to Nexia, which has taken a different approach.

Backed by $40m raised in an initial public offering, Nexia has been making spider-silk proteins by using genetically engineered goats that secrete the proteins into their milk. Once collected, the proteins are purified to the consistency of maple syrup. They are then fed through tiny pores that straighten the protein chains into zipper-like strings—in much the same way that spiders use minute ducts to extrude their silk. Nexia's herd of goats, which live on a decommissioned military base in upstate New York, has met most of the benchmarks for producing commercially usable spider silk. The main challenges now, says Mr Turner, are to increase the size of the herd and to speed up the transformation of proteins into silk—problems that he considers manageable.

But what can this silk be used for? Nexia intends to focus on low-volume, high-value applications in medicine. Mr Turner imagines fine filaments of spider silk being used as sutures in ophthalmological, vascular or neurological surgeries. Spider silk would seem to be ideal for the job, having the flexibility and strength of nylon but none of nylon's difficulties in holding knots. Spider silk might also be used as synthetic tendons or ligaments, he says.

Non-medical uses include body armour that is lighter and more flexible than Kevlar, and fishing line that is biodegradeable. Spider silk would also be good for parachute cords, or for the arrester cables used to slow down fighter jets landing on aircraft carriers. Dragline silk can absorb an unusually large amount of

energy before breaking. Other types of silk may appeal to fashion designers.

Nexia expects to see commercial products based on spider silk on the market within a few years. “Tom Clancy mentioned in one of his novels that police will be wearing soft body armour in 2010,” says Mr Turner. “I think we'll be there long before then.”

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MONITOR

Chips that see in colour

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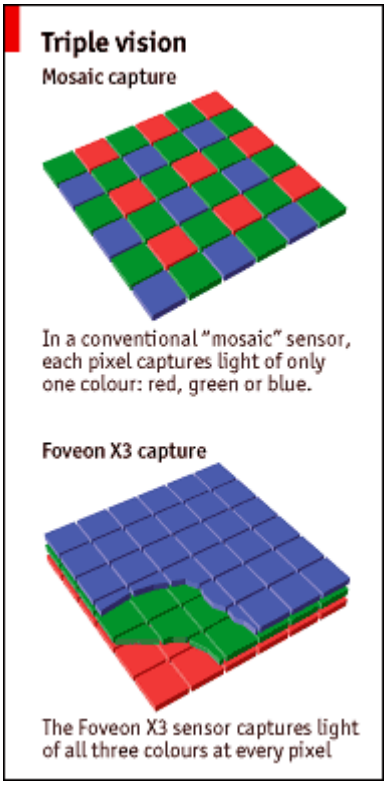
A new kind of optical chip that detects colours directly is set to transform the digital camera business

DIGITAL cameras are getting cheaper and more capable all the time, yet they still rely on an inelegant technological kludge. The sensor at the heart of a modern digital camera consists of a rectangular array of millions of individual picture elements or “pixels”. But each pixel is sensitive only to the brightness, not the colour, of the light that falls on it. To produce a colour image, a carefully designed mosaic of red, green and blue filters is positioned over the sensor array, so that 50% of the pixels are covered by a green filter, 25% by a red filter, and 25% by a blue filter.

Each pixel thus “sees” in only one colour. But for a full-colour image, the brightness of each colour at each pixel must also be known. So once the picture has been taken, the camera's software fills in the missing information through mathematical guesswork, or interpolation, based on the values of neighbouring pixels. This is clever, but it causes a few problems. Take a picture of a shiny object, such as a silver teapot, and you may notice strange coloured speckles, or artefacts, in the brightest parts of the image where the interpolation has been fooled. Interpolation also reduces the image's sharpness.



A new kind of image sensor devised by Foveon, an imaging company based in Santa Clara, California, cunningly solves these problems. The X3 sensor, as it is known, is the first such device to capture red, blue and green light at every pixel in the sensor array. It does this by cleverly exploiting silicon's ability to absorb light of different colours at different depths. Red light penetrates deepest, whereas green and blue are absorbed nearer the surface. So by stacking three detectors on top of each other at different depths within a silicon wafer—the blue sensor on top, green in the middle and red at the bottom—it is possible to measure the intensity of red, green and blue light in exactly the same place. Each pixel in the X3 sensor in effect “sees” in all three colours. The result is a full-colour image without the need for interpolation.

This has a number of advantages. For a start, the images are sharper, and do not suffer from colour artefacts. Also, the X3 sensor should be cheaper to make than existing sensors, because there is no need to go to the trouble of laying down a mosaic on top of it—a process that can require as many as 24 separate manufacturing steps. Another benefit is that a camera with an X3 sensor does not need to waste time and energy carrying out the interpolation—a process that typically requires 100 calculations per pixel. So it should respond faster and run for longer between battery charges.

In conjunction with its partner, National Semiconductor, Foveon has produced the X3 on a chip made using a 0.18-micron CMOS (complementary metal oxide semiconductor) process, which should make it possible to exploit the same economies of scale that other CMOS chips enjoy. The CMOS process is used for making memory chips and microprocessors.

But the best thing about the X3 sensor, says Jim Lau, chief executive of Foveon, is that it should make possible a new kind of hybrid camera. At the moment, digital video cameras take poor quality stills, and digital still cameras take poor quality video (largely because they have to compromise quality in order to perform all that interpolation on several frames per second). “We see a new class of cameras that can do

still and video with no compromise in either mode," says Mr Lau.

The first X3 sensor consists of 3.5m pixels (3.5 megapixels) and will appear in a high-end consumer camera. Foveon will not manufacture X3 cameras itself, but is licensing the technology to other firms. Mr Lau claims a "high level of interest" among the big camera manufacturers, whose products will sport the X3 logo (just as "Intel Inside" appears on many PCs). A second X3 sensor, which will appear in mass-market digital cameras in the summer of 2003, will have a resolution of 1.3 megapixels. That may not sound much, but Mr Lau points out that it actually has 3.9m sensors, so that it comfortably outperforms a conventional 2.0-megapixel sensor.

Foveon may find selling its products on the basis of quality, rather than raw pixel count, a marketing challenge. But in time, the aim is to make "X3" synonymous with sharper digital pictures.

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MONITOR

Flap over hot chips

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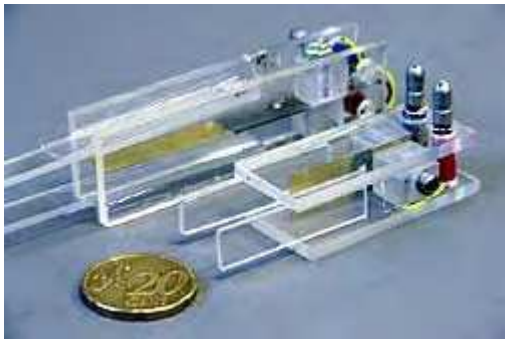
Piezoelectric fans could play an important role in cooling future generations of laptops, mobile phones and other gizmos

WANT to hear something really cool? How about a tiny fan that consumes a fraction of the energy of a traditional fan and removes heat twice as fast as natural convection. Made of piezoelectric material, these little ventilation wonders promise to change the way that the next generation of portable gizmos is designed.

The search for new methods of cooling has been under way ever since powerful processing chips started being crammed into hand-held devices such as PDAs (personal digital assistants), mobile phones and GPS (global positioning system) receivers. With more and more functions being added all the time, the processor chips are having to work harder, which invariably means that they get hotter. If their performance is not to suffer, ingenious ways of extracting heat have to be found.



Cool technology

The micro fans being developed at Purdue University, Indiana, use a Mylar blade attached to a ceramic with piezoelectric properties (ie, able to deform mechanically when an electric field is applied). Like the quartz crystal in a digital clock, an alternating voltage applied to the crystal in the fan causes it to expand and contract at a steady rate. As the crystal vibrates, the Mylar blade flaps back and forth like a Japanese fan, albeit a good deal faster.

Because the piezoelectric fan is a solid-state device, it has few parts to wear out. Also, having no external friction to overcome, the device does not generate any heat itself. And because there is no electric motor inside, the fan produces no electromagnetic noise to interfere with the delicate electronics of the device it is cooling.

In January, the Purdue researchers showed that the natural convection rate within a small enclosure could be doubled using a piezoelectric fan that consumed only two to three milliwatts of electricity. That compared with 300 milliwatts to do the same job using a conventional fan. In experiments for a laptop manufacturer, the team was able to lower the enclosure's interior temperature by 8°C. The piezoelectric fans were able to suck heat out of nooks and crannies that other fans left untouched.

The idea is not itself new. Piezoelectric fans were first developed in the 1970s, but finished up largely as novelty items. One firm that persevered is Piezo Systems of Cambridge, Massachusetts, but its piezoelectric fans are larger and more power-hungry than the ones the Purdue team is developing. Previous attempts to make much smaller fans failed largely because they were too noisy. It has taken some serious flow simulation studies to make them quiet and efficient enough for practical applications. Support for the work at Purdue has come from an industrial consortium that includes such companies as Apple, General Electric and Nokia.

At present, mobile phones do not have a fan inside them because such devices make too much noise, electromagnetically as well as acoustically. But the next generation of feature-rich phones will be too hot to handle without some form of forced ventilation. Apart from mobile phones, Arvind Raman of Purdue's mechanical engineering department says the group is also looking at applications in personal stereo devices, portable military equipment and dashboard terminals for cars. Dr Raman has even had inquiries from groups wanting to use the miniature fans for making “microbots” that fly.

Could they be made small enough to propel the “smart dust” that the Pentagon is keen to see developed? Such wireless sensors the size of dust particles would float, like swarms of gnats, across enemy territory, reporting back on any movement detected on the ground.

At present, the smallest fans to do the job have blades one centimetre long. Below this size, says Dr Raman, the laws of physics are a problem. For instance, the smaller the blades are, the stiffer they become; and the less floppy they are, the more noise they make. So, Dr Raman says his group is pursuing MEMS (micro-electro-mechanical systems) technology to see if they can use chip-making equipment to etch piezoelectric fans less than a micron (millionth of a metre) in size. Feel that puff of air around the ears?

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DIALOGUE

Cassandras not needed

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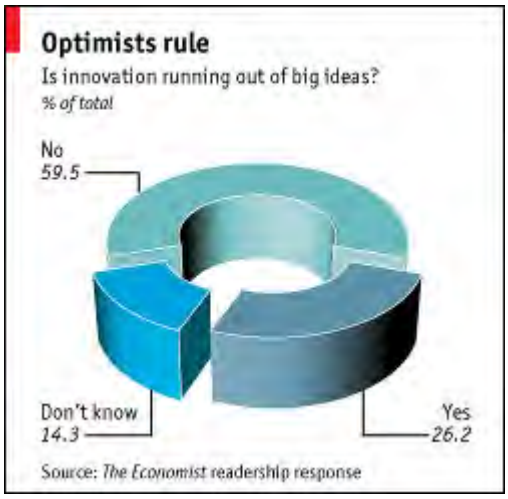
In the previous issue, we asked readers whether technology was losing its flair for diversity of design. The majority expressed no such qualms

A QUESTION raised in the December 8th 2001 issue of *TQ* was whether technology was losing its knack of being able to invent a host of solutions for any given problem; and whether, as a corollary, innovation was running out of new ideas to exploit. Such things matter. Diversity in engineering design has been the midwife of innovation, and is the thing that has made technology such a powerful economic force in the past.



The soaring cost of developing high-tech products such as fighter aircraft, gigabit memory chips or fuel-cell engines was cited as only one of the reasons why technological choice is on the wane, as one or two firms emerge as the sole suppliers. The trend towards globalisation—of markets as much as manufacturing—was seen as another cause of this loss of engineering diversity.

Yet another factor stifling technological choice was the widespread use of safety standards that emphasise detailed design specifications instead of setting minimum performance requirements for designers to achieve any way they wish. Then there was the commoditisation of technology brought on largely by the cross-licensing and patent-trading between rival firms, which more or less guarantees that many of their products are essentially the same.

The majority of *TQ* readers—clearly an upbeat lot—would have none of it. Three out of five readers who responded via the online discussion forum believed that diversity was alive and well. By contrast, little more than one in four readers thought there was a serious problem, while one in seven expressed no opinion one way or the other (see chart above).

First, the optimists. Some in this camp saw innovation in strict Darwinian terms, with random mutations throwing off a wide diversity of solutions and the unfit ones being weeded out by the marketplace. "Could it be that, with the increasing focus on return on investment, the apparent reduction in diversity is simply the result of innovations being judged more efficiently nowadays?" asked one reader. If that were the case, innovation itself (ie, the "mutation" rate) could actually be increasing. It would be a surprise if it were not, argued many of the optimists, given the higher proportion of educated people around these days and the better ways for them to communicate their ideas. Their view, which is hard to argue with, was that solutions that worked in any given area were arrived at quicker and possible alternatives died out sooner.

Others who also saw the glass half-full rather than half-empty thought that, while technology may be losing some of its diversity, innovation was changing qualitatively. One quantum physicist pointed out that science now pretty well understands the forces that shape the physical world. While there are details still to be worked out, technology is stuck with the limits of the physical laws and materials known today.

More imagination, please

But that does not spell the end of innovation. The problem is not the restrictions imposed by physics, but our still crude application of those physical laws. For instance, the performance of a computer is not limited by the physics of semiconductors, but by the creativity of the engineers designing the machine.

“Real innovation is going to occur at the architectural level,” one reader believed. In short, technology in the 21st century is going to be less about discovering new phenomena and more about putting known things together with greater imagination and efficiency.

The largest group of optimists, however, were those who subscribed to the “S-curve” view of innovation. Basically, this holds that after any major innovation comes a phase of selection and improvement, followed by a shake-out among suppliers, and finally a convergence on a single solution that is then adopted wholesale by the remaining participants. That is why bicycles the world over all look essentially the same.

That innovation seems to be running out of new ideas to exploit is because, once again, industry is preoccupied with technologies that are rapidly maturing. All their low-hanging fruit has long been plucked. But instead of bicycles and motor cars, the ageing technologies this time hail from semiconductors, computers, telecoms, aerospace and organic chemicals.

Fear not, say the optimists. Plenty of other S-curves are poised to deliver a fresh crop of innovative ideas. As one reader noted: “The candle-maker witnessed a decline in the diversity of his own product, but that did not mean Edison had no future.” Certainly, the industrial concentration that happened in bicycles and then cars did not forestall the rise of new diversities in information technology. “Now IT is consolidating, there is every reason to expect new diversities in such emerging fields as nanotechnology, quantum computing, proteomics, neuro-silicates, and machine intelligence.”

And what of the pessimists? Not all were Cassandras. Many, in fact, pointed to problems that the optimists ignored. A number worried profoundly about the way increasing knowledge was leading to increasing specialisation—with little or no cross-communication between experts in different fields. What was needed, said one reader, was a battery of software agents that were smart enough to traverse boundaries and look for similarities in different disciplines.

Others were concerned about the way a maturing technology can quickly become de-skilled as automated tools get developed so designers can harness the technology's power without having to understand its inner workings. The more that happens, the more engineers closest to the technology become incapable of contributing improvements to it. And without such user input, a technology can quickly ossify. “Just look at what has happened to relational databases,” said one reader. A salutary warning for all of those who would prefer to believe the best has yet to come.

Anyone wishing to take this discussion further should log on to the *TQ* online forum.

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Digital radio

Heavenly music

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A handful of satellite start-ups are hoping to deliver global digital audio to the last analogue holdout: radio. Meanwhile, conventional AM and FM broadcasters are responding with their own digital scheme

THE launch of America's first satellite-radio service was not without its hitches. XM Satellite Radio, the first firm to go live in the United States, began broadcasting late last year. But its start had already been postponed following September 11th. Eventually, when Hugh Panera, XM Radio's chief executive, was able to flip the switch, the company's two geostationary satellites began beaming 100 channels of CD-quality music and talk to listeners in San Diego and Dallas—the two first test markets.

But no sooner had the trials started than another problem emerged. The solar arrays on both of XM's Boeing 702 satellites were found to be degrading faster than expected. The estimated 15-year lifespan of the $150m satellites was suddenly cut in half. It is a good thing that XM keeps a spare.

Such technical snags do not trouble Mr Panera. Nor do they bother executives at Sirius Satellite Radio in New York, XM's only American competitor at the moment, which has been equally plagued with high-tech hiccups. If XM and Sirius succeed in rejuvenating the geriatric analogue radio industry with dozens of niche music, news and entertainment channels available to anyone, anywhere, in America's lower 48 states, even the most ardent sceptics will forgive their embarrassing start.

But XM and Sirius are not alone in the heavens. With plans to launch a third satellite within the next year, WorldSpace, based in Washington, DC, will serve South America, Western Europe, Africa and Asia with 40-odd channels in more than 20 languages—including Swahili, Tamil and Thai. WorldSpace plans to equip 30,000 Kenyan schools with receivers in the hope of profiting from a distance-learning initiative. Meanwhile, Global Radio in Luxembourg is aiming to start its satellite service in 2005. It will target Eastern and Western Europe with six “spot” beams from three satellites delivering 150 channels in ten languages.

Even conventional radio operators are diligently preparing for the inevitable shift to digital. In August 2000, a merger of Lucent Digital Radio and USA Digital Radio formed iBiquity Digital in Columbia, Maryland. Robert Struble, the company's chief executive, wants to persuade analogue radio operators to upgrade because he is convinced that flawless sound—packaged with regional news and local personalities—will keep listeners loyal to AM and FM.

It is satellite radio—with its ability to broadcast nationally or even across whole continents—that tantalises media analysts. Most expect satellite radio to aggregate niche markets that would not normally be profitable. That could shake up the antiquated radio world much as cable challenged network television in the 1980s. Mr Panera, who spent a decade with Time Warner Cable and five years at

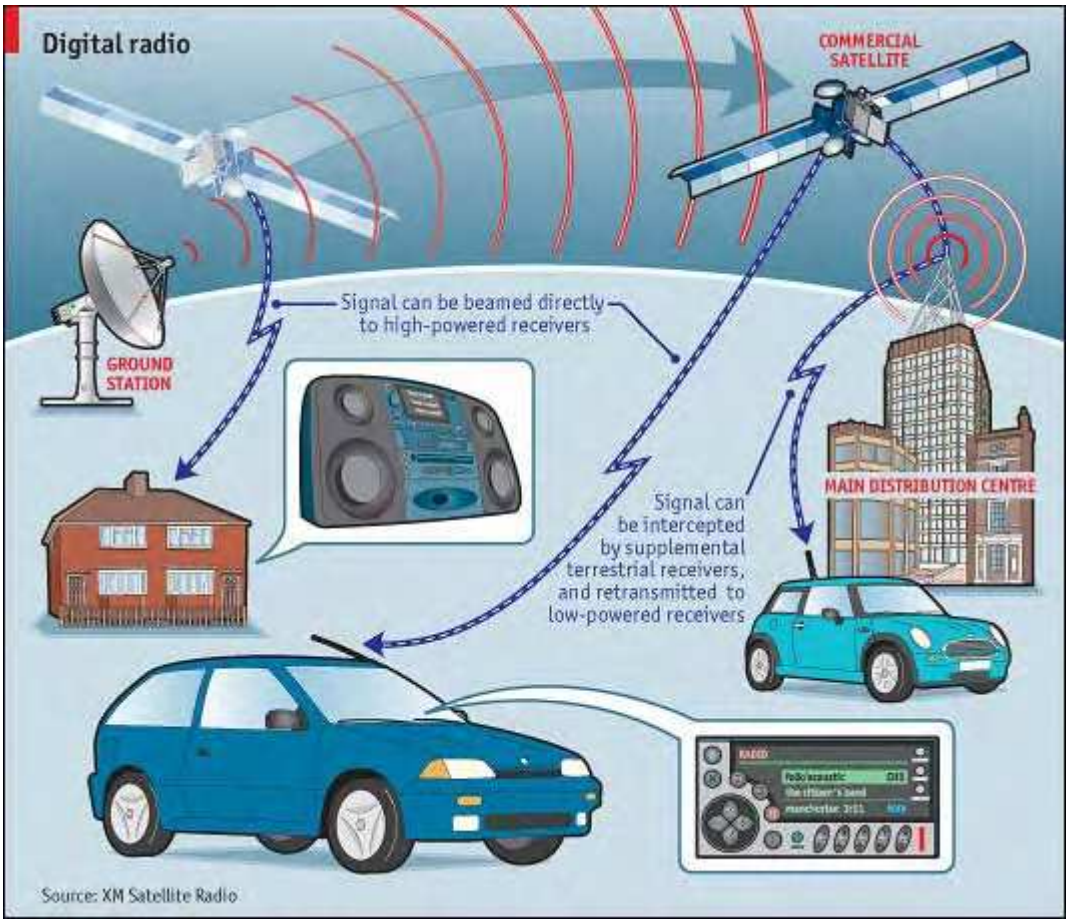
Request TV, an American pay-per-view network, remembers when the television networks scoffed at the introduction of cable. He believes that many of those broadcasters fell behind because they failed to embrace the technology.

Nevertheless, satellite radio cannot depend on the same lures as cable providers, who tempt prospective customers with complimentary receiver boxes and free home set-up. None of the satellite-radio firms will be giving away $229 receivers or doing installation for nothing. Mark Fratrick, a radio analyst with BIA Financial Network, predicts that even after satellite firms smooth out the technical wrinkles, it will still be tough to persuade millions of potential listeners to upgrade. In five to ten years, Mr Fratrick reckons that companies such as XM will win a respectable share of the market. In the meantime, XM and Sirius are going to need all the cash they have got.

Two companies with a little imagination and a lot of cash snapped up chunks of the spectrum in the newly available S-band

In 1992, America's Federal Communications Commission (FCC) earmarked a slab of the country's radio spectrum for something called Digital Audio Radio Service. At the time, the technology for compressing packets of digital music and voice—and transmitting them from orbiting satellites 23,000 miles above the equator to cheap little receivers on the ground—was barely on the drawing-board. But two companies with a little imagination and a lot of cash snapped up chunks of the spectrum being offered in the newly available S-band (around 2.3 gigahertz). American Mobile Radio and CD Radio paid the FCC $80m each for the rights to rain digital entertainment from the heavens. American Mobile Radio became XM and CD Radio became Sirius.

Scrunching the sound



All four satellite-radio firms—XM, Sirius, WorldSpace and Global Radio—employ similar technology to deliver their service. Music or spoken programming is first compressed using proprietary algorithms based on the Movie Picture Experts Group Audio Layer-3 (commonly called MP3). This lets broadcasters cram dozens of channels into a thin slice of bandwidth. After scrunching the audio data, operators must also decide on a bit rate—ie, the kilobits per second (kbps) of data that each signal can carry. As with streaming audio over a telephone line to a PC, a low bit rate translates into poor sound. For commercial reasons, XM does not reveal its exact bit rates, but it confirms that it uses higher levels on music channels to ensure CD-like quality. News and talk, however, transmit at much lower bit rates. Ground stations then upload the signal—now packaged as 1s and 0s of digital signalling—to satellites. These

bounce the signal earthwards to mobile or (in the case of WorldSpace) stationary receivers.

The amount of processing power and data storage needed to handle 100 channels of compressed audio is staggering. XM's headquarters, which contains 82 studios with all the latest equipment, is networked top-to-bottom with fibre-optic cable to ensure that the gargantuan loads of audio data can zip from servers to studios to satellites effortlessly. When audio is not being beamed out live, it is kept on 400 workstations that together store 1.5m songs or 50 terabytes (ie, 50m megabytes) of data—more than four times that held in the Library of Congress. The firm's operations centre puts the Pentagon's early-warning system to shame, with banks of computers scrutinising the output of each channel, while the positions of the satellites and overall reception are tracked on three massive overhead screens. The military analogy is fitting: XM's senior vice-president of engineering and operations is a retired air-force brigadier-general.

Though the studios are impressive, the most critical component for digital radio is in the receiver. At its core is a set of chips whose job it is to reassemble multiple digital signals arriving at varying times from alternate directions. This chipset then decompresses the stream into clean, crisp audio. More than any other factor, the chipset defines the audio experience. A poorly designed chipset will corrupt the sound with pops, clicks or dead air.

Working with Germany's Fraunhofer Institute (the birthplace of MP3) and STMicroelectronics, XM essentially re-engineered an existing chipset. Supplied by SGS-Thomson, the earlier chipset had been used by WorldSpace since 1997, but could not get mobile reception. Among other things, it lacked a memory “buffer” which banks audio in a separate storage area that can be drawn on if line-of-sight reception is blocked.

A closer look at XM's chipset reveals two unique integrated circuits, each assigned to different tasks. The first scrutinises multiple streams of data arriving from satellites and ground repeaters (which help boost weak signals), then decides how best to reassemble them. The second circuit handles decompression and encryption. Relying on subscription-paying customers, XM, Sirius and Global Radio scramble their signals so that they cannot be heard free of charge. The second circuit also buffers four seconds' worth of incoming data, so that tunnels, underpasses or other blind spots do not hinder reception.

By contrast, the Sirius chipset, which is manufactured by Agere Systems (formerly part of Lucent Technologies), encompasses eight integrated circuits. Pundits surmise that getting such a complex device to work properly has been one of the reasons why Sirius had to delay its launch. Eight months behind schedule, Sirius finally got its system in orbit on February 14th.

Sirius has had other difficulties. Instead of “hovering” two geostationary satellites over the equator due south of its American market like XM, Sirius chose to fly three satellites in an orbit that is 29,000 miles above the earth and inclined at an angle to the equator. This was supposed to make things easier. Each satellite covers the continental United States for only 16 hours each day; but with two satellites in sight at any one time, the elliptical orbit places the signal's emitter more directly overhead. In theory, this should improve reception a lot. However, it also requires the Sirius satellites to “hand-off” signals from one to another as they move out of range. Some engineers believe that passing the signal between the satellites, coupled with data arriving from repeater stations on the ground, could create anomalies in reception. To be fair, Sirius argues, with some justification, that its system should eventually provide superior sound. That is because, instead of limiting broadcasts to fixed bit rates, Sirius continually fine-tunes its audio quality—a practice called “statistical multiplexing”.

Operators of traditional radio stations in America claim not to be worried about the satellite invasion, saying there is plenty of advertising to go round

Global Radio has taken yet another approach. Eschewing the “hard-wired” design that is difficult to upgrade, Global Radio has set out to create a software-driven chipset that is based on a generic digital signal processor (DSP). In doing so, Global Radio can upgrade the software or replace the hardware whenever newer and better technology become available, allowing its chipset to improve steadily with time. In addition, being able to buy DSPs off the shelf has saved the company a fortune in not having to create a custom-built chipset from scratch.

The company's co-founder and chief executive, Paul Heinerscheid, talks of adding a GPS (global positioning system) feature to the receivers. With Global Radio's transmissions and GPS signals being neighbours in the radio spectrum, it ought not to be too difficult to make a dual-function chipset for an all-purpose, music-everywhere, never-get-lost gizmo. Global Radio needs $1.3 billion to achieve its ends.

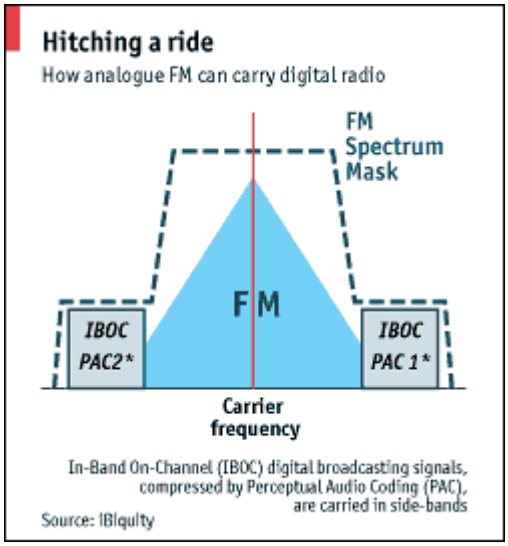
Assuming the money can be raised, it is going to take a further two years before it is broadcasting from space.

Room for all?

Operators of traditional radio stations in America claim not to be unduly worried by the satellite invasion—or at least, not by the prospect of competing with hundreds of specialist channels or even a national broadcaster. They point to the 51 different types of radio formats they beam out to 200m potential listeners. With XM and Sirius targeting only 4% of the market between them, radio operators say there are plenty of advertising revenues to go round. But that assumes the 11% annual growth in advertising revenue that the terrestrial stations enjoyed in the latter half of the 1990s will return. It also assumes that satellite radio goes ahead successfully as planned.

The one thing that gives local broadcasters sleepless nights is the network of repeater stations that the satellite companies are setting up in dozens of cities—to capture the incoming signal from orbit and retransmit it to “dark” areas that are hard to serve by line-of-sight transmission from satellites. The worry is that if satellite radio founders, the 1,500 or so repeaters perched on hill tops and tall buildings could easily be rerigged to broadcast local content. Objectors point to Boston, where XM Radio has set up 66 repeaters, giving it the option of establishing that many independent radio stations should it desire.

In the United States, Edward Fritts, the president of the National Association of Broadcasters, has made this an issue. His comments have roused the fears of local broadcasters, who have demanded a response from the FCC. They are not alone. Protests have also come from big providers of mobile-phone services, including AT&T, WorldCom and BellSouth, who claim that the terrestrial repeaters could interfere with reception of future data services planned for their wireless networks. There have even been grumblings from the Ultra Wide Band (UWB) community—developers of a new wireless broadband technology—who argue that the repeaters could disrupt their own 2.5 gigahertz transmissions.



For the time being, the FCC has sided with XM Radio and Sirius. Last September, the regulatory agency granted both companies temporary licences to operate their repeaters in areas where a satellite signal might be blocked. A final ruling was due as this issue of *TQ* went to press. Most expect XM Radio and Sirius to get a permanent green light.

In the meantime, radio operators in the AM and FM bands are supporting their own brand of digital broadcasting, from iBiquity Digital. The company's core technology, called In-Band On-Channel (IBOC) broadcasting, lets station owners add a digital signal to the same chunk of spectrum that they already use for their analogue transmissions. With a solution to hand, iBiquity has quelled many of the local broadcasters' fears about satellite radio. If anything, Mr Struble views XM and Sirius as clients rather than competitors. That is because the audio compression technology used by the satellite operators is licensed from iBiquity.

Off to a wrong start

Digital AM and FM is not new. Since the mid-1990s, many broadcasters in Europe, Canada, Asia and Australia have struggled to implement their own versions of digital radio, using a common standard called Eureka 147. This transmits CD-quality audio along with extra data to provide the performer's name and song title, or weather and traffic reports. However, Eureka 147 is rooted in an outmoded compression technology. It also requires radio broadcasters to transmit their digital signals over an entirely separate swathe of frequencies to their analogue signals.

In America, that part of the spectrum is simply not available, having long since been allocated to the armed forces. How about tweaking Eureka 147 to transmit elsewhere on the spectrum? Unfortunately, that is not a realistic option. It would still require broadcasters to pay for two licences—one for analogue and another for digital. That is what makes IBOC so attractive. It lets broadcasters use their existing part

of the spectrum for both digital and analogue transmissions.

For that, America's radio broadcasters can thank some extra precautions taken by the FCC. When the regulator apportioned spectrum to radio stations, it added a tiny 200 kilohertz buffer to each slice of assigned frequency—like saddle-bags on a horse (see illustration above). An FM station that was assigned the 93.5 megahertz broadcasting frequency actually got an allocation that spanned from 93.3 to 93.7 megahertz. The FCC's intention was to prevent interference from one station affecting others broadcasting on adjacent frequencies. What engineers at iBiquity found was that they could squeeze a compressed digital signal into that buffer and still have 100 kilohertz left over to prevent their signal from interfering with a neighbouring station's.

The company has designed a chipset that can not only process the old analogue signal, but also combine it with two new digital streams. Moreover, the digital broadcast was found to consume very little bandwidth, leaving plenty of room for the fat analogue signal to spread its wings. In fact, enough space was found in the saddle-bags to carry additional data. So, apart from hearing local AM and FM with pin-sharp digital reception, listeners can also get stock quotes, news headlines, weather forecasts, or movie times on a display fitted in their car's dashboard. And if digital reception is somehow obstructed, the IBOC chip can switch back to analogue, which tolerates weak or reflected signals.

Field trials of the IBOC hardware in Las Vegas, Washington, DC, and San Francisco have been overwhelmingly successful. The National Radio Systems Committee, a standards body, wrote of one test that “the digital signal remains robust and unimpaired [when] analogue reception is severely compromised.”

To station owners, the advantage of IBOC is that it does not require new transmitters or additional licences. Mr Struble estimates that stations can make the switch in three days. The average cost to upgrade a station's broadcasting equipment is a modest $75,000. He argues that, with all other entertainment media having joined the digital bandwagon, it is time for terrestrial radio to climb aboard.

To station owners, the advantage of IBOC is that it does not require new transmitters or additional licences. Stations can switch in three days

America's first terrestrial digital transmission equipment will be demonstrated in Las Vegas this April. Later this year, stations in Los Angeles, Miami, New York, San Francisco, Chicago and Seattle will start trials by adding digital streams to their analogue broadcasts. The first digital radio receivers will be unveiled to the American public in January 2003. No one expects motorists to replace their existing car radios with satellite receivers overnight. More likely, car radios will evolve over the years to include IBOC circuitry along with such features as navigation and mobile telephony.

Some audiophiles will not wait that long. They will tune in to the Internet instead. At present, there are some 4,000 radio stations offering together more than 100,000 streaming audio channels online. However, the only way to enjoy such programming today is with a PC and a broadband connection such as DSL (digital subscriber line) or cable modem. But what if there was a wireless device that could tune into thousands of Internet stations, but small enough to fit in a mobile receiver? This is what 3COM, a computer network company based in Santa Clara, California, had in mind when it paid $80m for Kerbango, a small company in Cupertino that marketed a portable Internet radio. However, faced with the need for drastic corporate restructuring, 3COM closed Kerbango last year.

For now, Internet radio—and, for that matter, iBiquity's and Eureka 147's terrestrial digital audio as well—are still years away from widespread use. Mr Fratrick at BIA predicts that it will be at least a decade before ground-based digital radio replaces analogue FM. By contrast, he expects XM Radio and Sirius—which have raised $3.5 billion between them from public offerings and private investors—to have little trouble luring gadget-mad consumers and high-mileage motorists to switch to satellite radio.

Tie-ups are the key

To that end, XM Radio has already signed agreements with General Motors (which has a 5.6% stake in the company), Saab, Suzuki and Isuzu. It has also been working with manufacturers of car stereo

equipment, including Sony, Pioneer, Alpine and Panasonic. Deals have been concluded with such retailers as Best Buy, Circuit City and Sears. The 2002 Cadillac Seville is the first car to come equipped with an XM receiver. Meanwhile, Sirius is signing up a posse of retailers as well as such radio makers as Kenwood and Clarion, and motor manufacturers such as Ford, Chrysler, Mercedes and Volvo. WorldSpace has done the same with Hitachi, JVC and Sanyo, while Global Radio plans to secure similar relationships.

It is these strategic partnerships that will decide the success of satellite radio. The idea that millions of car owners will toss out a perfectly good radio and spend several hundred dollars for a new one that receives XM or Sirius broadcasts, no matter how pristine the signal, is hardly realistic. But tacking $250 for a satellite radio on to the price of a $30,000 new car is a different matter.

On average, some 14m new cars are bought annually in America, each with a radio installed. Add to that a chunk of the 22m Americans who live so far out in the countryside that they can get fewer than five radio stations, and the potential audience for satellite radio begins to look respectable. XM and Sirius say they need only 2% of that market to break even. Indeed, analysts expect both companies to be in the black by 2005.

But what if America makes the same mess of digital radio as it did with mobile telephones? The hotch-potch of standards for mobiles means consumers have to buy a new phone every time they want to switch contracts or travel abroad. Will motorists have to pull out the receiver in the family saloon when they tire of XM's content and want to switch to Sirius?

Maybe not. XM Radio's 10K filing with America's Securities and Exchange Commission mentions “development of a unified standard for satellite radios”. As part of a settlement to end litigation filed by Sirius in 1999, which charged XM with patent infringement, the two firms have decided to share various aspects of their technology—with the intention of developing a radio that will, one day, let listeners buy one receiver that can recognise either signal. Now, if the satellite-radio devotees could only start talking to their terrestrial counterparts, the future could hold the promise of all manner of “narrowcast” radio programming—from classroom exercises to minor league sports events, ethnic news and a million other things that never get the time of day on AM or FM radio. Wishful thinking? Perhaps, but worth the wait all the same.

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Computing

AI by another name

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From The Economist print edition

After years in the wilderness, the term “artificial intelligence” seems poised to make a comeback

LIKE big hairdos and dubious pop stars, the term “artificial intelligence” (AI) was big in the 1980s, vanished in the 1990s—and now seems to be attempting a comeback. The term re-entered public consciousness most dramatically with the release last year of “A.I.”, a movie about a robot boy. But the term is also being rehabilitated within the computer industry. Researchers, executives and marketing people are using the expression without irony or inverted commas.

And it is not always hype. The term is being applied, with some justification, to products that depend on technology that was originally cooked up by AI researchers. Admittedly, the comeback has a long way to go, and some firms still prefer to avoid the phrase. But the fact that others are starting to use it again suggests that AI is no longer simply regarded as an overambitious and underachieving field of research.

That field was launched, and the term “artificial intelligence” coined, at a conference in 1956 by a group of researchers that included Marvin Minsky, John McCarthy, Herbert Simon and Alan Newell, all of whom went on to become leading lights in the subject. The term provided a sexy-sounding but informative semantic umbrella for a research programme that encompassed such previously disparate fields as operations research, cybernetics, logic and computer science. The common strand was an attempt to capture or mimic human abilities using machines. That said, different groups of researchers attacked different problems, from speech recognition to chess playing, in different ways; AI unified the field in name only. But it was a term that captured the public's imagination.

Most researchers agree that the high-water mark for AI occurred around 1985. A public reared on science-fiction movies and excited by the growing power of home computers had high expectations. For years, AI researchers had implied that a breakthrough was just around the corner. (“Within a generation the problem of creating ‘artificial intelligence' will be substantially solved,” Dr Minsky said in 1967.) Prototypes of medical-diagnosis programs, speech recognition software and expert systems appeared to be making progress. The 1985 conference of the American Association of Artificial Intelligence (AAAI) was, recalls Eric Horvitz, now a researcher at Microsoft, attended by thousands of people, including many interested members of the public and entrepreneurs looking for the next big thing.

It proved to be a false dawn. Thinking computers and household robots failed to materialise, and a backlash ensued. “There was undue optimism,” says David Leake, a researcher at Indiana University who is also the editor of *AI Magazine*, which is published by the AAAI. “When people realised these were hard problems, there was retrenchment. It was good for the field, because people started looking for approaches that involved less hubris.” By the late 1980s, the term AI was being eschewed by many researchers, who preferred instead to align themselves with specific sub-disciplines such as neural networks, agent technology, case-based reasoning, and so on. The expectations of the early 1980s, says Dr Horvitz, “created a sense that the term itself was overblown. It's a phrase that captures a long-term dream, but it implicitly promises a lot. For a variety of reasons, people pulled back from using it.”

Ironically, in some ways, AI was a victim of its own success. Whenever an apparently mundane problem was solved, such as building a system that could land an aircraft unattended, or read handwritten

postcodes to speed mail sorting, the problem was deemed not to have been AI in the first place. “If it works, it can't be AI,” as Dr Leake characterises it. The effect of repeatedly moving the goal-posts in this way was that AI came to refer to blue-sky research that was still years away from commercialisation. Researchers joked that AI stood for “almost implemented”. Meanwhile, the technologies that worked well enough to make it on to the market, such as speech recognition, language translation and decision-support software, were no longer regarded as AI. Yet all three once fell well within the umbrella of AI research.

Quiet respectability

But the tide may now be turning. “There was a time when companies were reluctant to say ‘we're doing or using AI', but that's now changing,” says Dr Leake. A number of start-ups are touting their use of AI technology. Predictive Networks of Cambridge, Massachusetts, focuses advertising using “artificial intelligence-based Digital Silhouettes” that analyse customer behaviour. The firm was founded by Devin Hosea, a former National Science Foundation fellow in artificial intelligence.

Another firm, HNC Software of San Diego, whose backers include the Defence Advanced Research Project Agency in Washington, DC, reckons that its new approach to neural networks based on a cluster of 30 Pentium processors is the most powerful and promising approach to artificial intelligence ever discovered. HNC claims that its system could be used to spot camouflaged vehicles on a battlefield or extract a voice signal from a noisy background—tasks humans can do well, but computers cannot. Whether or not its technology lives up to the claims made for it, that HNC is emphasising the use of AI is itself an interesting development.

Large companies are also using the term. Dr Leake points out that Bill Gates of Microsoft gave the keynote speech at last year's AAAI conference and demonstrated several Microsoft technologies that are close to being incorporated into the company's products. A few months ago, Microsoft trumpeted a “breakthrough application that enlists the power of artificial intelligence to help users manage mobile communications.”

HAL encapsulated the optimism of the 1960s that intelligent computers would be widespread by 2001

The product in question is Mobile Manager, which uses Dr Horvitz's research into Bayesian decision-making to decide which e-mail messages in an individual's in-box are important enough to forward to a pager. Dr Horvitz says he is happy to refer to his work as AI. His current work, which involves using spare computing capacity to anticipate and prepare for the user's most likely next action, is based on research published in *Artificial Intelligence*. “We just submitted a paper on how a theorem-proving program could exploit uncertainty to run more efficiently,” he says. “That's core AI. I personally feel better about using the term. There are people, myself and others, who use the term proudly.”

Sony also unabashedly uses the term AI when referring to its robot dog, AIBO. (The name is derived from the combination of “AI” and “bot”, and means companion in Japanese.) The company boasts that “advanced artificial intelligence gives AIBO the ability to make its own decisions while maturing over time.” It sounds like hype, though once you have seen an AIBO's uncannily life-like behaviour, the AI label seems appropriate. AIBO's intelligence, such as it is, relies on genetic algorithms, another trick that has been dug out from the AI toolkit.

In computer gaming, the term AI has always been used with a straight face. The gaming community got interested in AI in the late 1980s when personal computers started to get more powerful, says Steven Woodcock, a programmer who has worked in both the defence and games industries, and who maintains a website devoted to the study of AI in gaming: www.gameai.com. As graphics improve, he says, a game “needs other discriminators, like whether it plays smart.” Game reviews routinely refer to the quality of the AI—well, what else would you call it?—and some games are renowned for the lifelike quality of their computer opponents.

Mr Woodcock says there is now quite a lot of traffic in both directions between AI programmers in the academic and gaming worlds. Military simulators, he notes, are increasingly based on games, and games programmers are good at finding quick-and-dirty ways to implement AI techniques that will make computer opponents more engagingly lifelike. Gaming has also helped to advertise and popularise AI in the form of such impressive games as “The Sims”, “Black & White” and “Creatures”.

Information overload

Another factor that may boost the prospects for AI is the demise of the dotcoms. Investors are now looking for firms using clever technology, rather than just a clever business model, to differentiate themselves. In particular, the problem of information overload, exacerbated by the growth of e-mail and the explosion in the number of web pages, means there are plenty of opportunities for new technologies to help filter and categorise information—classic AI problems. That may mean that artificial-intelligence start-ups—thin on the ground since the early 1980s—will start to emerge, provided they can harness the technology to do something useful. But if they can, there will be no shortage of buzzwords for the marketing department.

Not everyone is rushing to embrace this once-stigmatised term, however. IBM, for example, is working on self-healing, self-tuning systems that are more resilient to failure and require less human intervention than existing computers. Robert Morris, director of IBM's Almaden Research Centre in Silicon Valley, admits this initiative, called “autonomic computing”, borrows ideas from AI research. But, he says, where AI is about getting computers to solve problems that would be solved in the frontal lobe of the brain, autonomic computing has more in common with the autonomic nervous system. To some extent, he suggests, the term AI has outgrown its usefulness. He notes that it was always a broad, fuzzy term, and encompassed some fields whose practitioners did not regard their work as AI. And while IBM continues to conduct research into artificial intelligence, Dr Morris does not link autonomic computing to such work. “This stuff is real,” he says.

Similarly, Max Thiercy, head of development at Albert, a French firm that produces natural-language search software, also avoids the term AI. “I consider the term a bit obsolete,” he says. “It can make our customers frightened.” This seems odd, because the firm's search technology uses a classic AI technique, applying multiple algorithms to the same data, and then evaluates the results to see which approach was most effective. Even so, the firm prefers to use such terms as “natural language processing” and “machine learning”.

Perhaps the biggest change in AI's fortunes is simply down to the change of date. The film “A.I.” was based on an idea by the late director, Stanley Kubrick, who also dealt with the topic in another film, “2001: A Space Odyssey”, which was released in 1969. “2001” featured an intelligent computer called HAL 9000 with a hypnotic speaking voice. As well as understanding and speaking English, HAL could play chess and even learned to lip-read. HAL thus encapsulated the optimism of the 1960s that intelligent computers would be widespread by 2001.

But 2001 has been and gone, and there is still no sign of a HAL-like computer. Individual systems can play chess or transcribe speech, but a general theory of machine intelligence remains elusive. It may be, however, that now that 2001 turned out to be just another year on the calendar, the comparison with HAL no longer seems quite so important, and AI can now be judged by what it can do, rather than by how well it matches up to a 30-year-old science-fiction film. “People are beginning to realise that there are impressive things that these systems can do,” says Dr Leake hopefully. “They're no longer looking for HAL.”

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Global positioning

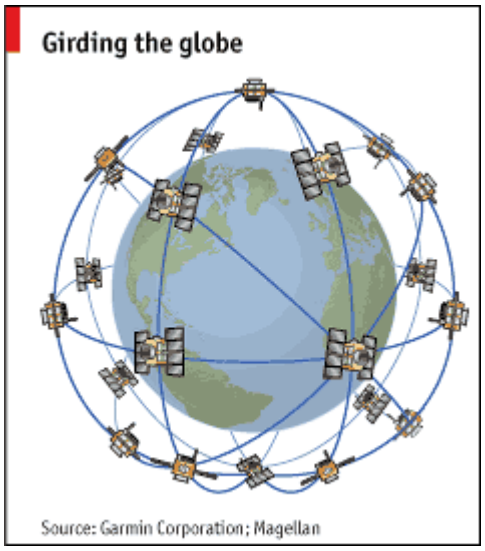
Accuracy is addictive

Mar 14th 2002
From The Economist print edition

The invention of GPS married ideas from quantum mechanics and relativity with the need to track Russian satellites. Most remarkable of all, the concept—now the basis of a $12 billion industry—was put together over a single weekend

EVER since humans took to exploring beyond their front yard, they have sought ways of determining where they are and where they are going. But until fairly recently, the best positioning tools available—landmarks, celestial guidance and dead reckoning—all had disadvantages. Some were too local or complicated; others too finicky or inaccurate. In her book “Longitude”, Dava Sobel wrote that an inability to establish their whereabouts reliably caused every great captain in the age of exploration, from Vasco da Gama to Sir Francis Drake, to become lost when at sea.

During the 1950s, with their first artificial satellite in the works, the generals of the former Soviet Union were mulling over the merits of building a satellite navigation system. The KGB agents dispatched to the United States concluded that the Americans had no interest in such a system (true at the time) and had the generals' plan dismissed as a bad idea. It took the launch of *Sputnik* in 1957 to shock America into action—and to start a desperate bid to catch up. In the process, they conceived a satellite navigation system called the global positioning system (GPS), which solved the problem, once and for all, of how to locate yourself anywhere on the globe in three dimensions.



It was during the Gulf war in 1991 that the world first began to hear about GPS in a big way. Using hand-held devices rushed into production by a small firms such as Magellan, coalition troops were able to find their way around the Iraqi desert with uncanny accuracy. Since then, GPS technology has moved into public life. Today, it is being applied with ever-increasing precision to such activities as exploring the heavens or navigating the maze of streets and freeways around Los Angeles in a rented car.

It is used to track fleets of vehicles on the highways and self-steering tractors in the fields; to keep weekend yachtsmen out of trouble at sea; and to check the health of dams and bridges around the world. But the best-kept secret about GPS is its value as a clock. Time-sensitive operations associated with banking, telecommunications and even power grids have come to depend on GPS. Already the basis of a $12 billion global industry, GPS is an example of a self-perpetuating innovation: the better it gets, the more uses people find for it.

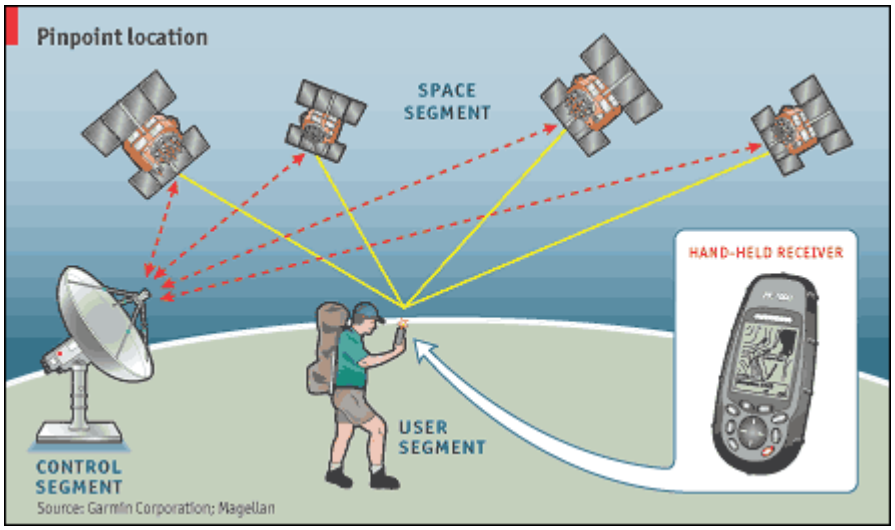
How did it come into being? Within days of *Sputnik*'s launch in October 1957, researchers around the world were able to determine the satellite's orbit by analysing variations in the frequency (ie, the Doppler shift) of the satellite's radio signal as it passed overhead. Frank McClure, then chairman of the Applied Physics Laboratory (APL) at Johns Hopkins University in Baltimore, saw the navigational possibilities of using the Doppler shift from a satellite to locate a receiver on earth.

The following year, with money from the Pentagon, scientists at APL began to develop a satellite navigation system called Transit. At the time, the nature of the ionosphere and the earth's gravity field—which can have a serious effect on radio signals—were still conundrums. But progress was swift. The United States Navy, which was looking for a way to launch ballistic missiles accurately from nuclear submarines, assumed responsibility for the system in 1958. Within six years, Transit was up and running.

Subsequently, other satellite navigation efforts were started within the American defence establishment. The Timation project at the Naval Research Laboratory was based on highly accurate clocks. Not to be left out, the United States Air Force was sponsoring a project known simply as 621B, which used a special signal to prevent jamming.

Analysing the Doppler shift of signals from Transit's half a dozen satellites allowed a submarine to determine its location to within 25 metres. But the system took up to quarter of an hour to get a fix, and it did not give continuous positioning. In 1973, the Department of Defence proposed consolidating all the satellite navigation projects into one that combined the best features of the existing systems. After some initial wrangling, the GPS concept was hammered out over a holiday weekend.

Today, GPS consists of 28 satellites orbiting 10,900 nautical miles above the earth. An upgrade programme continually adds more satellites to the constellation. A network of ground stations—in locations as far-flung as Hawaii and Ascension Island in the South Atlantic—tracks the satellites, updating their positions and time signals to ensure their accuracy.



In essence, GPS works by measuring the time it takes a radio signal from a satellite to reach a receiver on the ground. Each satellite continuously broadcasts a signal that gives its position and the time. A GPS receiver compares its own time with the satellite's time, and uses the difference between the two to calculate the distance. Taking measurements from four satellites allows the receiver to pinpoint latitude, longitude and altitude, and to correct for errors in its clock, which is not nearly so precise (or costly) as the clocks in the satellites. The problem is simply one of solid geometry: finding the point of intersection of four spheres, each centred on one of the satellites. Using four signals is better than three; and even more is better still. Modern GPS receivers pluck down as many signals as possible.

Success, of course, depends on knowing exactly where the satellites are at any given moment. That part is not all that hard, since the satellites are constantly updated with navigational data by the control stations on the ground. But accurate timing is also critical for GPS. It takes less than a tenth of a second for the signal from a satellite overhead to reach a receiver on the ground. What device could keep time that precisely? The needed innovation, oddly enough, emerged from basic research of the most arcane sort.

Not your father's watch

If you have something that vibrates with a known frequency, you have the basis of a clock. Pendulums, springs, tuning forks and piezoelectric crystals have all been pressed into service with varying degrees of accuracy. But none compares with the oscillations that occur deep within the atom. The theory of quantum mechanics says that atoms will emit electro-magnetic radiation of a very specific frequency (“resonant frequency”) depending on the particular energy states that are available to that individual atom.

In 1944, the year he won a Nobel prize for “magnetic resonance”, Isador Isaac Rabi of Columbia University suggested that an atomic clock could be made using the resonant frequencies of caesium atoms. Rabi was interested in the

Remarkably, GPS calls into play

properties of atomic nuclei, not clocks, and he never pursued the idea. But after the second world war, his former student, Norman Ramsey, improved Rabi's method, collecting his own Nobel prize for the work in 1989.

Einstein's theories of special and general relativity—among the most esoteric theories of physics

Creating atomic-time standards became a priority in both America and Britain after the second world war. Jerrold Zacharias at the Massachusetts Institute of Technology developed a practical atomic clock around the same time that Louis Essen and John Parry established the first atomic clock at the National Physical Laboratory in Teddington, west of London. Thanks to this pioneering work, “NIST-F1”, America's primary time and frequency standard at the National Institute of Standards and Technology in Boulder, Colorado, is accurate to one second in 20m years.

Each GPS satellite carries four atomic clocks synchronised to a universal standard. Each satellite transmits information at two frequencies, L1 and L2. The signals include “pseudo-random codes”, which are a sequence of “up” and “down” states that look like random electrical noise. The innovation of assigning a unique pseudo-random code to each satellite allows all the satellites in the GPS constellation to use the same frequencies without jamming one another, and protects them from other interfering signals as well. As a bonus, the random code's continuous signal provides precise information about the time.

Remarkably, GPS calls into play Einstein's theories of special and general relativity—among the most esoteric theories of physics. Because of the velocity with which the satellites orbit the earth and the weaker gravitational field that they move through, the atomic clocks on board the GPS satellites advance faster than comparable clocks on the ground. If the effects of relativity were not taken into account, GPS would not work.

It was always assumed that the public would get access to GPS one day. But it was not until the early 1990s that a sufficient complement of satellites was in orbit. While the military signals were accurate to 18 metres and encrypted for exclusive use, the civilian signals were distorted deliberately to reduce their accuracy to 100 metres. President Clinton ended the restrictions on accuracy for commercial use in May 2000. Today, the public can get GPS position fixes with an accuracy of three metres to 15 metres, depending on where they are.

Actually, GPS can do a lot better than that. By cross-referencing the satellite data with a ground-based transmitter of precisely known location, the accuracy can be boosted tenfold or more. Aviation authorities around the world have been testing “differential GPS” for blind landing in fog, where approaching aircraft need to be positioned vertically and horizontally with an accuracy of ten centimetres or less. Then there is the “advanced GPS” that is used for scientific and other precision measurements such as monitoring seismic activity and ocean currents, and for remote sensing of global warming within the atmosphere. Using additional triangulation, this can pinpoint an object's position to within one centimetre.

Thanks to Sputnik

At a time when American rockets were still toppling over on the launch-pad, the idea of using satellites to navigate was as audacious as it was ingenious. To start with none, and then to send a whole constellation of satellites into space within a few decades, represents a remarkable feat of technology. Establishing the vision and the means for organising, tracking and maintaining a project of such global proportions and complexity was equally impressive.

GPS is a classic example of the process of technical evolution. Observation of *Sputnik's* signals led to Transit, the world's first satellite navigation system. Transit sparked competing efforts to develop an even better navigational system. In turn, that lead the Pentagon to consolidate all the projects into one focused international (though American-funded) push. And out of that came GPS.

As a case history of innovation, GPS shows the importance of being able to understand the physics at the most theoretical level while also being able to envision the technology needed to use it practically, and then ruthlessly prevent roadblocks, rivalries or lack of focus to hinder progress. It is doubtful that the global positioning industry would be where it is today without the Pentagon's role as midwife. Nevertheless, the lessons learned from GPS's commercialisation apply equally to technological innovation in the biggest and smallest of companies.

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Machine translation

Tongues of the web

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With its proliferating number of tongues, the Internet is giving MT—the use of computers to translate languages—a much needed shot in the arm

SINCE its earliest days, machine translation—the use of computers to translate documents from one language to another automatically—has suffered from exaggerated claims and impossible expectations. One characteristic (but apocryphal) tale tells of an American military system designed to translate Russian into English, which is said to have rendered the famous Russian saying “The spirit is willing but the flesh is weak” into “The vodka is good but the meat is rotten.”

This sort of joke prompts a hollow laugh from those in the machine-translation (MT) business. It does so because it demonstrates both the difficulty of getting computers to understand human languages, and the high expectations that must be met if MT is to be taken seriously. Over the years, there have been a number of promising new approaches in the field, and ever-cheaper processing and storage technology have helped improve things. But progress has been painfully slow, and the decisive breakthrough that will transform the fortunes of MT has never appeared.

Now the Internet has given MT a much needed shot in the arm. This is odd because the ability to transmit information quickly and cheaply would not, on the face of it, appear to make the process of translation any easier. Yet, although the underlying technology of MT is still the same as it ever was, the rise of the Internet changes the way in which technology is perceived and the way it is used. And there are signs that, in future, it could improve the way it works as well.

The idea of automating the process of translation using computers goes back to the late 1940s. Warren Weaver of the Rockefeller Foundation in New York wrote a memorandum suggesting that the code-breaking successes of the second world war, combined with electronic computers and the new “information theory” laid out by Claude Shannon, might form the basis of an automatic translation system. This prompted research at several American universities, and the first public demonstration of MT—the result of a collaboration between IBM and Georgetown University—took place in 1954. This early system, based on a simple bilingual dictionary with a few rules to determine word order, caused a surge of enthusiasm and funding.

For the next decade, MT researchers tried to overcome the limitations of simple dictionary-based systems using more complex approaches which analysed the source text using grammatical rules. “Today, the computer, or electronic brain, is well along toward picking up the burden of machine translation,” declared the *Atlantic Monthly* in 1959. But despite such optimism, progress was slow, and in 1964 the American government established a committee to examine the prospects for MT. Its report, issued two years later, concluded that, compared with human translators, MT systems were slower, less

accurate, and twice as expensive. Instead, the committee recommended that research should concentrate on devising systems to assist human translators, rather than trying to replace them altogether. As a result, American funding for pure MT research dried up.

In some fields, however, it was recognised that even a rough-and-ready translation was better than none at all. Systran, a company established by Peter Toma, a researcher at the California Institute of Technology in Pasadena, sold a Russian-to-English translation system to the United States Air Force in 1970, and the same system was subsequently adopted by the European Commission. During the 1970s, demand for translation systems began to emerge in the business community.

During the 1980s, the combination of rapid falls in the cost of computing power and increasing demand from governments and multinational companies caused a revival of interest in MT, spurring renewed research. New systems were developed. Many of them worked by translating the source text into an intermediate language or symbolic representation, from which it could be translated into any of several other languages. As computers became more powerful and storage became cheaper, other new approaches emerged in the 1990s: analysis of parallel texts (the same text in two languages) led to new statistical-translation systems, which did not rely on any underlying grammatical rules, and to example-based systems which translated one sentence at a time by searching a database for examples of similar sentences whose translations were known.

Even so, the quality of MT has not really improved very much over the past three decades, says John Hutchins, an expert on the history of machine translation at the University of East Anglia, in Britain. “If you look at quality of output now, compared with 1970, in many cases you can't see much improvement,” he says. What has changed is that MT systems have now been plugged into the Internet. That changes the way they are used, and the expectations of them.

The network of Babel

The Internet has democratised MT and boosted demand dramatically, as users around the world struggle to understand pages in languages other than their own. And as companies set up increasingly elaborate websites, they have become aware of the need to maintain multiple sites in different countries and serve customers in different languages. Of America's 100 largest firms, 33 had multilingual websites at the end of 1999, and 57 did a year later. A study by Aberdeen Group, a management consultancy, found that, on average, users spend up to twice as long at a site, and are four times more likely to buy something from it, if it is presented to them in their own language. Another study by IDC, a technology consultancy, found that only 5% of the 50 top websites responded appropriately to e-mail queries in a foreign language; most simply asked for the message to be resent in English. All of which highlights the need for MT systems to provide on-the-fly translations, and for elaborate publishing systems that can manage multilingual websites.

Arguably the best known online MT system is Babel Fish, which relies on Systran software to translate pages retrieved by the AltaVista search engine. Anyone who has used Babel Fish will be familiar with the unintentional hilarity of the results; one popular game involves scrambling the lyrics of pop songs by translating them from English into another language and then back again (a “round-trip” translation). Other MT systems are also in use online, providing rough-and-ready translations of chat-room conversations and e-mail messages. Demand for such services is likely to increase as the diversity of Internet users increases. At the end of 2000, 48% of Internet users were English speakers, but this figure is expected to fall to 32% by the end of 2002.

The Internet changes the game for machine translation: users want speed, rather than quality, and are more likely to accept poor results

Unfortunately, MT systems work best when they have been customised for a particular subject area, such as microbiology, aerospace or particle physics. This involves analysing typical documents and adding common words and technical terms to the system's dictionary. Using MT to translate Internet pages, which can be about anything at all, therefore produces terrible results, since no customisation is possible. To make matters worse, most MT systems were designed for use with high quality documents, whereas many web pages, chat-rooms and e-mails tend to involve slang, colloquial language and ungrammatical constructions.

Even so, Steve McClure, an analyst at IDC, notes that the Internet has “refocused”MT from being a tool that provides a first draft for translators to becoming a general tool “for gaining a quick, partial understanding of perishable texts in high-volume environments without human involvement in the

translation process.” The Internet changes the game for machine translation: users want speed, rather than quality, and are more likely to accept poor results.

The fact that MT is now available to every Internet user is, however, a double-edged sword, says Laurie Gerber of the Association for Machine Translation in the Americas, an industry body that brings together MT researchers, vendors and users. People are now far more familiar with the technology, she says, and may have revised their attitudes towards it, as they become aware that rough-and-ready translations have their uses. But Ms Gerber warns that the Internet has also made enemies for MT. “They'll try to use it for something serious, or they'll do round-trip translation, and say ‘look how silly it is',” she says. “They get the impression that it's useless.”

Mr Hutchins makes a similar point. “At present, people are grateful for any translation,” he says. But he doubts that this will remain true for long. Soon, he suggests, Internet users will demand higher quality translations. Fortunately, there are several ways in which the Internet itself may be able to help improve the quality of machine translation.

Translate this

The biggest difference, says Dimitrios Sabatakakis, chief executive of Systran, is that the Internet makes it much easier to create a customised version of a machine-translation system. A typical system has around 300,000 custom entries, he says. What used to require three or four years of text-entry and analysis can now be done in three or four months—simply by sucking up documents from a company's intranet.

Another benefit is that large firms are increasingly imposing standardised style and terminology rules across all their internal and external documents, including reports and web pages. Once a machine translation system has been tuned appropriately, it can produce far more accurate results if the input text is more consistent. In some cases, says Mr Sabatakakis, firms are adopting standardised language with the specific intention of making documents easier to translate. A firm posting technical-support documents on its website, for example, might include a “translate this page” button on each page that feeds the page through a customised translation system. The resulting translation is then of far higher quality.

A pioneering example of this approach has been taken by Autodesk, a company based in San Rafael, California, that makes computer-aided design software. With over 60% of its revenues coming from outside the United States, the firm faces the daunting task of supporting 4m users of its software in many different parts of the world. It provides technical support in the form of an online database of some 10,000 documents, each about 1,000 words long, and each addressing a particular problem. A few hundred new documents are added each month, and around half a million documents are consulted by users each day.

Manually translating all of these documents was out of the question. But using off-the-shelf MT produced results of unacceptable quality. So, Autodesk opted for a customised Systran system which translates search results into French, Spanish, German or Italian. (Support for Japanese is in the works.) By analysing the documents in Autodesk's database, and exploiting the fact that they are written in a consistent style, it was possible to tune the translation system to produce far more accurate results. The system was launched in July 2001.

One drawback, however, is that the initial search terms have to be in English. But translating search terms from other languages into English, performing the search, and then translating the results, is horribly inaccurate. Autodesk is investigating a number of possible solutions to this problem. Nonetheless, Mr McClure calls the Autodesk system a “milestone” in the commercial evolution of MT. Technical support represents an untapped market for MT, he says. Technical documents contain fewer ambiguities and translate well. “If Autodesk and Systran are successful, the floodgates may open for the use of MT for multilingual customer support,” he suggests. IBM has already launched a similar system.

Mr Sabatakakis says that his firm has noticed a recent surge in interest from multinational companies. Just as the construction of America's highways meant that Goodyear sold many more tyres, he hopes the Internet will have a similar effect on the machine-translation business. Rather than seeing MT as a product they can simply buy off the shelf, large firms are now realising that MT systems must be customised and integrated into their document-management processes. Mr Sabatakakis draws an analogy with databases. When you buy software from Oracle, he says, you expect to have to spend some

time setting it up and customising it before you can start using it.

Thanks for the memory

Another way in which the Internet may be able to improve the effectiveness of MT is through the use of shared “translation memories”. A translation memory is a parallel database of previously translated content. Human translators use such databases to speed up their work. Given a sentence that needs to be translated, it may be that the same sentence, or a very similar sentence, is in the translation memory already. (A translator who translates technical manuals, for example, may find that many sentences are common to manuals for a range of similar products, such as cameras or printers.) Some translation systems combine translation memories with MT systems to provide first drafts of sentences that do not appear in the memory.

Over the past few months, however, a number of firms producing translation-memory software have suggested that translators might wish to pool their work. By establishing a vast, online translation memory, translators would be saved the hassle of translating sentences that had already been translated by others. In theory, MT systems could tap into these vast memories, too.

Rather than seeing MT as a product they can simply buy off the shelf, large firms are now realising that MT systems must be customised

It sounds like a great idea. But there are a number of practical problems with shared translation memories. One is quality. How can you be sure that a sentence plucked from a translation memory is an accurate translation? A bigger problem is ownership. Mr Hutchins points out that translators may be unwilling to give away their work. And Ms Gerber notes that if you translate a document for a large company, that company will probably be reluctant to make that document, and its translated version, available to all-comers. If one computer firm has gone to the trouble of translating its manuals into Chinese, why should a competing firm reap the benefit? Another problem when translating technical materials is that many firms have their own proprietary terminology, which they use to distinguish themselves from their competitors.

These are all valid objections, but there may be ways around them. Prolyphic, a firm based in San Diego, has set up a royalty system whereby translators are rewarded each time someone else uses some of their work. Prolyphic also operates a vetting system to guarantee the quality of translated content. And fussiness about special terminology, or proprietary information, is something that only bothers really large firms, says Ms Gerber. She suggests that using shared translation memories might appeal to smaller firms that have not invested so heavily in their corporate images, and simply want to sell a few widgets.

By boosting usage, changing user perceptions, and encouraging the standardisation and pooling of resources, the Internet has improved the prospects for MT enormously, even though the technology itself is unchanged. What will happen next? Mr Hutchins predicts that specialist translation systems will proliferate, as users in particular fields demand higher quality free translations. Trade publications or scientific journals, for example, might set up customised translation systems to make their content more easily accessible. But the pitfall of having to search in the original document's language remains. Mr McClure says he would like to see more research into “cross-language retrieval” to address this problem, by allowing a database in one language to be searched and accessed by someone who does not speak that language. His firm has found that even those who speak a second language very well prefer to access documents in their own language when possible.

Spectrum of tools

But perhaps the greatest impact of the Internet is that there is now a broader perception that MT technology provides a spectrum of tools for use in different circumstances. Free, fast translations are only good enough to get the gist of a document. Better translations require fancier systems, and more effort on the part of users to accommodate their vagaries.

It seems unlikely, however, that MT will ever shrug off its reputation for making silly mistakes. Ms Gerber notes that, even with the best human translators, some people are unhappy with the results, because of inappropriate use of style or terminology. The quality of translation is, in other words, highly subjective. “MT gets a bad rap for not being ‘human quality',” she says. But this means it is being held to unreasonably high standards. Even so, the Internet has made MT technology more useful; and MT

technology has done the same for the Internet. The two are interdependent, says Mr Sabatakakis. Perhaps symbiotic is more like it. Both technologies need each other—and now stand to prosper from each other's progress.

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Micromachines

The engines of Lilliput

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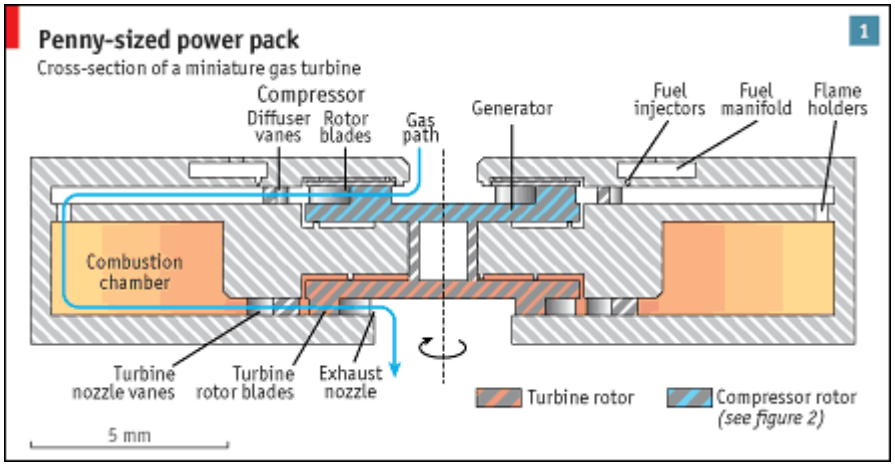
Miniature engines and electricity generators are being carved out of silicon with the help of chip-making tools. Far from being toys, these micromachines have real work to do in industry and defence

GULLIVER would be right at home. By etching microscopic components into the surface of silicon wafers, researchers are building Lilliput-sized engines that work just like their full-sized brethren. Using various techniques pioneered by micro-electro-mechanical systems (MEMS), these penny-sized engines can power miniature pilotless aircraft and satellites. Coupled with miniature generators made the same way, microengines could replace batteries in sensors, laptops, or any other device needing portable power. And unlike conventional batteries, which take time to recharge, generators-on-a-chip could be refuelled in seconds—with little more than a squirt of lighter fuel.



One of the most enthusiastic supporters of microengines is the Defence Advanced Research Projects Agency (DARPA) in Washington, DC. William Tang, the agency's programme manager for MEMS research, believes that a power source built into a silicon chip would be extremely useful on the battlefield. One device being studied is a sensor no larger than a sugar cube that contains all the wireless communications and data storage circuitry along with the power supply. A microengine generating up to 50 milliwatts would be enough to power such a sensor as it collected information from its surroundings and beamed the data up to a low-flying aircraft. Hundreds of sugar-cube sensors could be scattered over the terrain and left to monitor ground vibrations and temperature changes for months on end.

More attractive still would be microengines capable of generating power in the 10-20 watt range. At present, soldiers have to carry 20-pound backpacks of batteries on the battlefield to feed their power-hungry communications and targeting gear. With further development, Dr Tang believes that today's 20-pound battery packs could eventually be replaced by a MEMS engine and its butane fuel can weighing no more than a pound.

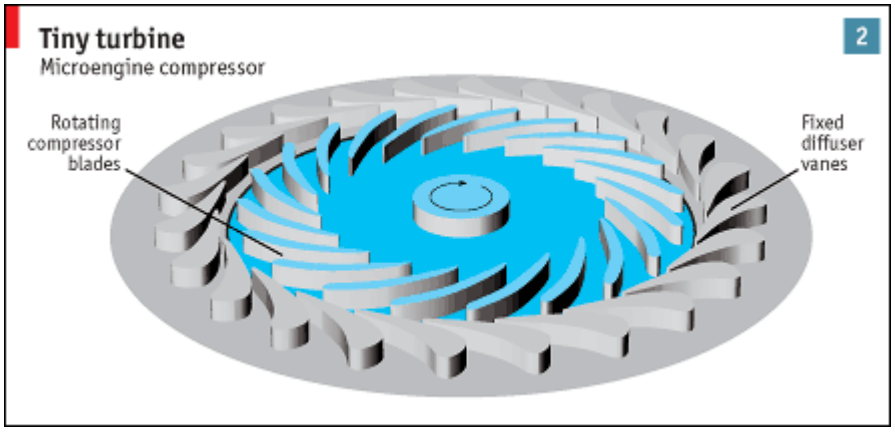
Designing a miniature engine demands more ingenuity than merely shrinking the size of the components. Where gas flows are involved—as they are in the intakes, combustion chambers and exhausts of piston engines, gas turbines and rocket motors—the flow pattern has to be scaled along with the dimensions. That means the Reynolds number (a critical parameter that reflects a fluid's density, velocity and viscosity as well as the dimensions of the object it flows around) has to be the same in a microengine as it is in a conventional motor. Modelling the internal flow patterns on a much reduced scale is a highly non-linear business. For instance, if the dimensions are shrunk 100-fold, the flow speeds may have to increase 1,000-fold or more.

Jet engine on a chip

This is the problem Alan Epstein has had to solve at Massachusetts Institute of Technology, where he and his team are building a miniaturised gas turbine. Although Dr Epstein has plenty of experience designing conventional gas turbines, his group had never encountered the constraints imposed by microscale manufacturing before. If it is to achieve the same flow pattern, the rotor in a MEMS turbine has to spin a good deal faster than that in a conventional jet engine.

The fuel combustion process has also posed a challenge for the designers. Chemical reactions take place at the same rate whether they are occurring over one metre or one micrometre. As fuel flows through a microscale combuster, it therefore has less time to react than if it were flowing through an ordinary combustion chamber. Complicating matters further, the burning fuel cannot be allowed to get too volatile for fear of cracking the microscopic engine's casing, which is made of silicon instead of high-temperature alloy.

Earlier this year, Dr Epstein demonstrated that a prototype of his microscale jet engine could achieve rotor speeds of 1.3m revolutions per minute—enough, in theory, to generate 17 watts of power. The prototype is carved out of six wafers of silicon, stacked on top of each other like a pile of pancakes. The entire device contains just one moving part: the spinning turbine disc. Dr Epstein reckons that, fuelled with hydrogen, a MEMS engine measuring two centimetres wide and three millimetres thick could generate ten watts of electrical power. If a hydrocarbon fuel were used instead, it could supply several times more. The best batteries around today can deliver only a thirtieth the power from such a package.



A wholly different set of challenges has had to be overcome by Wei Yang at Honeywell in Morristown, New Jersey. Dr Yang is working on a microengine that uses a free-piston design, where the combustion process drives a piston which, in turn, drives a turbine. So far, the Honeywell team has two important achievements to its credit. First, it has managed to get fuel to ignite in volumes too small for a spark or fuel injection to work. By compressing the fuel extremely rapidly, Dr Yang has been able to make it burn in a cavity as small as one cubic millimetre. This removes the need for creating a special chamber for combustion.

The second breakthrough has been to get the combustion process to take place under extremely lean conditions. Traditionally, internal-combustion engines have used an air/fuel ratio of eight or more to one, and converted chemical energy into mechanical energy with an efficiency of 20-30%. By contrast, Dr Yang's device uses an air/fuel ratio of around 40 to one—even higher than the lean burn conditions found in the “stratified charge” engines of modern cars. As a result, the Honeywell device achieves an efficiency of over 50%.

Such an engine would be light and powerful enough to propel a “micro-air-vehicle”—a propeller-driven aircraft with a wingspan of 15 centimetres or less. Alternatively, by arranging the piston to move through a series of magnetic coils, its reciprocating action could be used to generate an electric current instead of mechanical output. When complete, Dr Yang expects his engine to be no more than one cubic centimetre in volume, and deliver five to ten watts of power.

But before any of this can happen, numerous engineering problems have to be solved. For instance, though internal-combustion microengines have high power-to-weight ratios, they are as bad as their big brothers when it comes to

There is no escaping the fact

noise, vibration and noxious emissions. That may not matter to soldiers on the battlefield. But mobile-phone users could not tolerate them. Microengines are therefore expected to find their way into applications such as satellite propulsion systems before invading the laptop and mobile-phone markets.

that, ultimately, micromachines will have to have microengines to drive them

Meanwhile, David Lewis of TRW, an engineering firm in San Diego, has pioneered the use of MEMS in rocket propulsion with partners at the California Institute of Technology in Pasadena and the Aerospace Corporation of El Segundo, California. The group has built an array of microthrusters from three strata of glass and silicon. The bottom layer consists of a grid of microresistors. On top of that sits a grid of sealed cells the size of poppy seeds, each holding a minuscule amount of fuel such as lead styphnate. These cells are covered with a thin membrane that can be broken by igniting the fuel.

To fire the cell, an electrical current is passed through the microresistor, which ignites the fuel, ejecting the propellant and delivering an impulse. Using a speck of the solid lead styphnate fuel, each cell generates about one newton of thrust (around a quarter of a pound) for about a millisecond. With arrays of such microthruster chips built into its walls, a microsatellite weighing no more than a kilogram could adjust its position in orbit with extreme precision.

The attraction of micropropulsion arrays is that they are simple to make and hard to break. Unlike most commercial rocket engines which use liquid fuels, these arrays use a “dry” technology. They have no moving parts, fuel lines, valves, sealants or the messy hydraulics of conventional rockets. Dr Lewis reckons that 1m microthruster cells could be manufactured on a single wafer of silicon.

The self-powered processor

The way MEMS devices are powered at present is far from satisfactory. Often the equipment for generating the necessary voltage is too large to make the MEMS device worth building. If micromachinery is to play the role enthusiasts predict, frugal chip-sized power sources are going to be needed in large quantities.

How about building a nuclear reactor on a chip? This has been suggested by two researchers at the University of Wisconsin. But the nuclear reactions that James Blanchard and Amit Lal propose using would be a lot safer than those used to drive nuclear power stations. A nuclear MEMS device would collect particles produced by radioactive decay. For example, a radioactive isotope such as nickel-63 releases so-called beta particles—a highly energetic form of electrons. Each electron carries about one nanowatt (a billionth of a watt) of energy. Harness a few thousand of these minute bursts of energy, and some useful work could be done.

In their experiments, the two Wisconsin researchers use a solution of the nickel isotope to fill sets of microscopic channels in a silicon plate. While the radioactivity emitted by the solution is not enough to damage the silicon, it is enough to produce a few microwatts of power. Though the output is minute, such a power source could carry on generating electricity unassisted for a long time. The half-life of nickel-63 is 102 years. So a nuclear-powered microgenerator would still have half a tank of fuel left after a century.

Being small and light enough, nuclear MEMS generators could be used to power microscopic aircraft. Kris Pister of the University of California in Berkeley wants to use nuclear MEMS devices to propel microscopic airborne surveillance devices around the sky. A floating network of silicon sensors the size of dust particles would monitor the temperature, pressure, moisture of the surrounding air, or even movements on the ground.

Science fiction? Far from. The reality is that microengines are fast becoming the power source of choice for the latest crop of MEMS devices—including the lab-on-a-chip being developed for the food and drug industries. The traditional battery has improved in leaps and bounds since laptops, cell phones and PDAs came on the scene. But it is still an order of magnitude or more too bulky for the new generation of micromachines. The fuel-cell on a chip is coming along fast and could well replace the rechargeable battery within a decade. But the theoretical limits of chemical energy mean that they will never be able to produce as energetic a punch as a MEMS generator. There is no escaping the fact that, ultimately, micromachines will have to have microengines to drive them.

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LAST WORD

Mach 1 at Microsoft

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Times are not good for industrial research centres, especially in computing and telecoms. Rick Rashid runs one of the few corporate laboratories that is still expanding. But despite its money, talent and experience, can Microsoft Research live up to expectations?

ASKED about the biggest challenge to running Microsoft Research, Rick Rashid does not have to think twice. It is the thought that the software giant's research laboratory may be trapped by its own success. “There is always the danger that you stop and don't try to strive for the next thing.”

Veteran of software's holy wars

Life has been good for Microsoft Research (MSR for short). It has grown steadily in size, as well as in reputation, while better-known corporate laboratories have been ailing. AT&T's former Bell Labs, once considered America's greatest industrial asset, has been split up, its remaining parts subjected to severe cutbacks, and a third of its researchers made redundant. Xerox's Palo Alto Research Centre (PARC), the fount of so many of Silicon Valley's inventions, is up for sale.

Yet it remains to be seen whether MSR can follow in the footsteps of these legendary research institutions—and produce seminal innovations such as the transistor or the graphical user interface, which came out of Bell Labs and PARC respectively. Critics say that is unlikely, because what MSR does is essentially glorified product development.

Dr Rashid shrugs off such snipings. “If one day we invent the teleporter, the headlines would read: ‘Microsoft copies again',” he jokes, referring to the “beam-me-up” device in “Star Trek” (of which he, like so many computer professionals, is an ardent fan). His office on the Microsoft campus in Redmond is littered with Trekkie memorabilia. “Everything I need to know in life I learned in Star Trek,” reads a framed poster by the door.

Like Star Trek's Mr Spock, Dr Rashid prefers rational analysis to shooting back. People get passionate about the technology they use, especially software. Even today, Dr Rashid is amazed at the way some colleagues turned the program he is best known for—the Mach operating system—into a religious war. “I guess apostles are always more zealous than the Messiah,” he laughs.

No question that Mach, which Dr Rashid developed in the 1980s while he was a professor at Carnegie Mellon University, caused a good deal of controversy in computing circles. One of the project's goals was to overcome a major drawback of many operating systems of the day. The problem with such software was that their monolithic cores (“kernels”) were always bound tightly to one particular type of microprocessor—and could thus only run properly on a computer built around that particular chip.

Dr Rashid and his colleagues licked the problem by simplifying the kernel, adding what computer scientists call a “layer of abstraction”. The Mach kernel performs only the most basic functions of an operating system, leaving the higher-level and hardware-specific features to other components. This concept, which became known as “microkernel”, also allows Mach to assume the personality of different operating systems. In fact, the first release of Mach imitated a Berkeley version of Unix.

Shock waves

But the Berkeley Unix crowd was not just unhappy for technical reasons. They felt that Dr Rashid and his

colleagues wanted to build Mach all alone, while they saw their Unix more as a collective effort. Yet slowly but surely, Unix programmers adopted many of the ideas behind Mach. Its main legacy is that it reminded Unix devotees to build their programs in a more modular way so as to reduce complexity, says Alfred Spector, who worked with Dr Rashid on the Mach project and is now the top software researcher at IBM's Thomas J. Watson Research Centre.

More surprisingly, the software code written for Mach is still widely used. It has found its way into the Tru64 operating system, another flavour of Unix, and is at the core of Apple's new operating system, OS X—not least because Dr Rashid's key collaborator, Avadis Tevanian, is now Apple's chief software engineer. By contrast, Linux, the increasingly popular Unix clone, emerged as Mach's opposite. That was because Linus Torvalds, who conceived Linux while a graduate student, was not particularly enamoured of the microkernel approach.

Enigma wrapped in a maze

But Dr Rashid was made founding director of MSR not only because of his wizardry with operating systems. His attitude to the job counted for much, say insiders. Like Microsoft itself, Dr Rashid is unvaryingly optimistic. “If you worry too much about what you are doing, you don't do it,” he argues.

Yet Nathan Myhrvold, Microsoft's chief technology officer at the time, had to woo Dr Rashid repeatedly before he signed up in 1991. What made him finally say yes was the chance to create a new research organisation and the urge to try something different. “I wanted to make myself uncomfortable,” he says.

Going to Redmond was not without risk. Microsoft has always been much less an innovator than a clever aggregator of things invented by others. Giving the personal computer a “graphical user interface” (GUI or “gooey”) such as Windows was Apple's idea—which, in turn, was inspired by work done at Xerox PARC. But this lack of technical originality was exactly why Mr Myhrvold, who left Microsoft in 1999, wanted to create MSR. “The only way to get access to strategic technologies is to do it yourself,” he wrote in an internal memo.

Although Mr Myhrvold admired PARC's ground-breaking work, he intended to do things differently. Above all, he was determined to ensure that MSR did not suffer a similar fate—ie, invent lots of clever things that got left on the laboratory shelf, or slipped out of the back door to make fortunes for others.

In the early days, luring talented researchers to Microsoft was unquestionably a challenge

Mindful of such mistakes, Microsoft set strict rules for MSR when establishing the centre. First, the laboratory was limited to software research. Second, the research had to benefit Microsoft's business in some way. For good measure, MSR was located on the firm's campus in Redmond—and not, like Xerox PARC, 3,000 miles from corporate headquarters.

That said, the founders had no intention of creating a traditional industrial research laboratory in which scientists toil behind closed doors. Dr Rashid's idea was to replicate Carnegie Mellon's famous computer-science department. He still believes that industrial researchers should be fully involved in the academic community and publish their work for peer review. “If you only work with product groups, it is easy to convince yourself that you are doing good work.”

In the early days, luring talented researchers to Microsoft was unquestionably a challenge. The company was not exactly seen as being on the cutting edge of new ideas. But once Dr Rashid had persuaded a critical mass of noted scientists to join, things became easier. Stock options aside, what convinced most recruits was the chance to get their innovations into products used by millions.

Though still modest by IBM's standards, Microsoft's think-tank now employs 680 researchers and costs $250m a year to run—about 5% of the company's R&D budget. It covers more than 40 different research areas—from natural language processing and vision technology to software development tools and data mining. Following in IBM's footsteps, Microsoft has started opening research centres elsewhere. Outposts now exist in Beijing, Cambridge (England), San Francisco and Silicon Valley.

The quality is certainly there. A number of the legendary greats of computing have made Microsoft their

home. Gary Starkweather, who invented the laser printer, is one. Another is Gordon Bell, the father of the minicomputer (first the pioneering PDP-6 and later the hugely successful VAX) at the lamented Digital Equipment Corporation. Meanwhile, Roger Needham, Cambridge University's leading computer light and software security expert, now heads Microsoft's laboratory in Britain.

Continuing controversy

And yet, and yet. Far from abating, the controversy over MSR's creativity continues apace. The question remains: is the laboratory's scientific output commensurate with its intellectual input? Microsoft says that nearly all its products are now influenced in some way by its research arm. For instance, MSR developed the guts of the media player in Windows XP and the grammar checker in Office XP. But both were, at least partially, “me-too” versions of products already on the market. And neither could be considered to be the kind of breathtaking breakthrough expected of such a well-endowed laboratory. More damning still, Microsoft almost missed the Internet, despite MSR's computing superstars.

Perhaps, as some suggest, there is an inherent contradiction at the heart of MSR. On the one hand, the laboratory wants, in Dr Rashid's words, “to move the state of the art forward”. But on the other, its main aim is to have an impact on Microsoft's products. Would MSR be free to invent a technology capable of threatening, say, the company's Windows franchise? Dr Rashid argues that if MSR does not, then others certainly will. He also points out that nobody—neither he nor the brass at the top of the firm—controls what an individual researcher publishes. If MSR can advance the field of computing, he says, Microsoft will find a way to benefit from it. “If we can't figure out how, then we really are stupid.”

For all that, it would be wrong to discount MSR and its importance to Microsoft. Ultimately, says Dr Rashid, the research centre is about making sure that Microsoft is still around in ten years' time. Idle chatter? Not necessarily. In the emerging world of web services and distributed computing, Microsoft will have to comply more with open standards. That means it will have to compete more on product quality and innovation, instead of simply getting its competitive edge from owning the world's dominant computing platform.

So expect to see MSR's role in Redmond grow. It has already contributed much to Microsoft's ambitious software platform for web services, .NET. And without its think-tank, the company would certainly have an even harder time tackling what Microsoft's chairman, Bill Gates, recently declared a top goal: making the company's products “trustworthy”. No surprise that both Dr Rashid in Redmond and MSR's software security expert in Cambridge have their hands full these days.

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Mobile telecoms

The tortoise and the hare

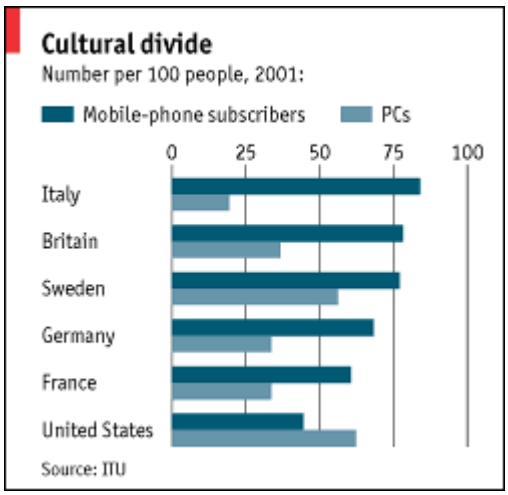
Mar 14th 2002 | LONDON AND SAN FRANCISCO
From The Economist print edition

America has traditionally trailed Europe in the field of wireless communications. Has it now caught up?

WHEN Ari Virtanen, a manager at Nokia, moved from Finland to California's Silicon Valley, he experienced a peculiar and unexpected form of culture shock. Like many Europeans, he is used to communicating with friends and colleagues via short text-messages sent using his handset. So he was horrified to discover that in America, text-messaging is almost impossible. Whether it works or not depends on the specific combination of the sender's and receiver's handsets, operators and so on—a telling illustration of the gulf between America and Europe in wireless communications.

For while the mobile telephone has quietly been assimilated into European culture, in America it has been held back by industry fragmentation and a quagmire of conflicting standards. Around 45% of Americans own a cellphone, compared with 75% of western Europeans.

This is largely a result of differing regulatory approaches. Europe's governments agreed in 1987 on a single standard for mobile telephony, known as GSM, that now accounts for around 65% of the world's mobile networks and allows users to roam from one country to another and to exchange text-messages with other operators' customers, even in other countries.



In contrast, the Americans chose to let the market decide on a standard. Unfortunately, the market was indecisive: five incompatible standards emerged. This meant that prices were higher, since operators were unable to benefit from GSM's economies of scale in network infrastructure and handsets. Many Americans ended up using different handsets in different parts of the country. Text-messaging was a non-starter. And in a country where local calls are free, having to pay both to make and receive calls on a mobile phone seemed unreasonable.

The prospect of “third-generation” (3G) mobile phones—which will supposedly offer advanced services such as Internet browsing and video—looked like Europe's chance to capitalise on America's wireless

confusion. Once again, European governments agreed on a standard, known as UMTS. To prepare for the transition, European operators started rolling out an intermediate technology, called GPRS. And they splashed out more than $90 billion on 3G licences.

But things have not gone to plan. UMTS, like GSM before it, turned out to be harder to implement than expected. Handsets have yet to materialise. Having paid a fortune for their 3G licences, operators have been hamstrung by huge debts, and have delayed building their 3G networks. This week Nokia gave a warning of weaker-than-expected sales of base stations and networking equipment as operators postpone their expansion. And Lucent, another telecoms-equipment maker, said sluggish sales might delay its return to profit until 2003. The shares of other infrastructure and handset vendors slipped in response. After repeated postponements, nobody now expects much sign of 3G in Europe until 2004 at the earliest.

Meanwhile, America has been catching up. Several operators have adopted GSM, albeit on a different radio frequency from that used in Europe; but anyone equipped with a “tri-band” telephone can now use it on both sides of the Atlantic. Three operators—AT&T Wireless, Cingular and VoiceStream—are collaborating to provide nationwide GPRS coverage. And several large operators have agreed to pass text-message traffic between their networks.

The absence of a centrally imposed standard has given American operators more freedom of action. One operator, Verizon Wireless, has rolled out a new high-speed network in some areas using a technology called CDMA-1X that has been hugely successful in South Korea and is regarded by its supporters as a form of 3G (though it is incompatible with UMTS). Another operator, Sprint PCS, plans to launch a similar network in the summer.

Paradoxically, even the regulatory chaos surrounding spectrum allocation in America, which has yet to allocate new spectrum for 3G, has had an unexpected benefit. Unlike their European counterparts, American operators have not paid vast sums for the right to enter an uncertain market where profits are years away.

Furthermore, it is American rather than European firms that seem to be benefiting from the convergence of mobile telephones with the Internet. Over the past two years venture-capital firms have invested three times more in North American wireless start-ups than they have in European firms, calculates Rutberg & Company, an investment bank in San Francisco. A host of American firms is pursuing innovative wireless technologies, including smart antennae, Internet-like “mesh” network architectures and devices that bridge the gap between computer and handset. Tellingly, it is an American firm, Qualcomm of San Diego, that owns the key patents for the radio techniques that are common to all the 3G standards.

The move towards Internet standards also plays to the strengths of American companies, argues Rich Wong of Openwave, a Silicon Valley firm that provides software for many of the world's handsets. He predicts that America's web-aware consumers will adopt new wireless-Internet services, once they become available, more quickly than Europeans.

Moreover, American firms have deployed e-business technology—such as supply-chain management or customer-relationship management systems—far more widely than their European rivals. As a result, they are already leading the adoption of wireless data services in business. Witness the success of the BlackBerry e-mail pager, made by Research in Motion, a Canadian firm. Already hugely popular in the United States, it is only now starting to take off in Europe.

Bottom-up v top-down

The late arrival of 3G means that Europe's wireless lead has evaporated. But if and when UMTS technology gets going, and its economies of scale make themselves felt, the result could look eerily familiar: an innovative but fragmented market in America, and a more coherent and interoperable market in Europe and elsewhere. By adopting technologies such as CDMA-1X, in other words, American network operators may gain an advantage in the short term, only to end up outside the world standard.

But things could be different this time around. UMTS may not prove as successful a standard as GSM, and the Internet will in any case make it easier to glue incompatible wireless-data systems together. Marty Cooper of ArrayComm, a wireless-data firm, argues that the “one size fits all” approach of UMTS is wrong-headed. It is far better, he says, to have a variety of competing standards that appeal to different market niches: “Yes, there's chaos for a while, but users choose.”

A standard that supports international roaming, he says, appeals more to Europeans than Americans, for example. The advent of wireless data will, he argues, show that the top-down approach of the traditional telecoms world has had its day. (Mr Cooper's views count: he pioneered mobile telephones while at Motorola in the 1970s and is known as “the father of the cellular phone”.)

That, ultimately, is the difference between the American and European approaches: a laissez-faire, individualist attitude on one side of the Atlantic, versus a centrally planned, consensual attitude on the other. And that, you could say, is a microcosm of the difference between America and Europe.

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General Electric

Big game hunting

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The world's most valuable company sets the record straight, sort of

BEANCOUNTERGATE rumbles on. This week the book-keeping of big American telecoms companies was back under the microscope. WorldCom and Qwest said the Securities and Exchange Commission is investigating their accounting methods. “Corporate McCarthyism,” squealed Joe Nacchio, Qwest's pugnacious chief executive, before the market resumed dumping his company's shares. Traders taste blood, and will not stop at telecoms firms. Some are even snapping at the leathery hindquarters of the biggest game of all: General Electric (GE).

As the most valuable company in the world, GE has built a reputation to match its size. Yet it suddenly finds itself on slippery ground. The awkward questions about big-business practices raised by the collapse of Enron, a Texan energy trader, keep on coming. On March 8th, President George Bush unveiled a ten-point plan to clean up American business. Fresh revelations of suspected accounting abuses (or at least, creative interpretation of the rules) appear daily, and investors are not waiting for proof of guilt. The herd is selling anything that looks big and hard to understand. GE is both.

So far, the company has replied with a calibrated mixture of strong words and concessions to market demands. The same investors who rewarded it for the predictability of its earnings now worry that those earnings are just a bit too predictable. “It is almost as if an earnings ‘miss' would be more virtuous than meeting your commitments during tough times,” wrote Jeff Immelt, GE's newish boss, in the latest annual report, published on March 8th, “but that is not GE.” In the same report, however, Mr Immelt disclosed more information than ever about GE's operating businesses, which span financial services, medical devices, aero engines and much else. Officials say the new information begins a dialogue with investors. “The goal is to make GE more comprehensible,” says David Frail, a company spokesman.

For the moment, investors seem a bit happier. Most of the new information was about the financial-services arm, GE Capital, which makes a little less than half of the group's profits. GE's doubters have for years claimed that GE Capital was a black box: outsiders could not hope to know how it made its money. The new information, which breaks down GE Capital's revenues and profits according to its different businesses, is a help.

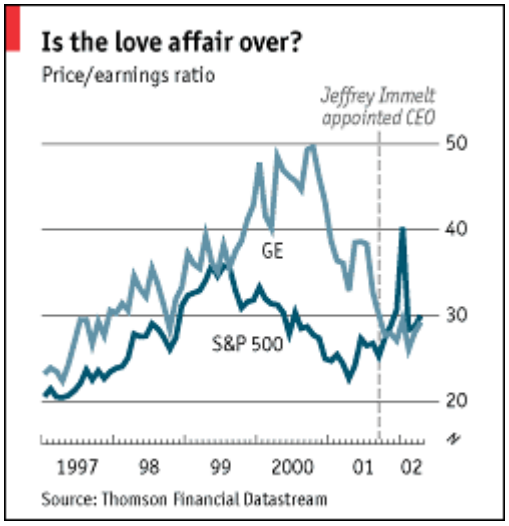
But other grumbles have gone unanswered, especially complaints about how GE accounts for its many acquisitions (more than 100 companies in each of the past five years). According to its cash-flow statement, GE spent $12.5 billion on “principal businesses purchased” in 2001, but the company still provides no information about how these purchases affected revenues or profits. Mr Frail says that the work involved would be enormous, and the benefits to investors doubtful, but that the company is keeping an open mind.

In truth, GE is never going to make itself truly transparent to outsiders, even if it were to double the 200 meetings it already holds for analysts each year. The company really is too big and complicated to grasp using numbers alone. Because it is so vast and makes a lot of acquisitions, a crooked management could all too easily manage or manufacture earnings any number of ways—by manipulating the large reserves that GE Capital takes against bad debts, for instance, or by artificially inflating the charges it takes for restructuring the firms it buys. More than for any other company in America, investing in GE is an act of faith.

That is why Mr Immelt finds himself in such a delicate position. Everyone seemed to believe in Jack Welch, his predecessor. In his 20 years at the helm, Mr Welch never let investors down. Those who know the company well, such as Noel Tichy, a management

professor, say Mr Immelt shares Mr Welch's obsession with integrity and his insistence that everyone in the company measures up to his high standards. “One strike and you're out,” was Mr Immelt's message to the company's top 600 managers as they gathered for their annual pow-wow in Boca Raton in January. The punter on the street, however, knows far less about Mr Immelt, and remains sceptical: the generous valuation premium that investors lavished on Mr Welch has disappeared under his successor (see chart).

That is a serious state of affairs for GE, which exists as a conglomerate (the company prefers “multibusiness”) only because the market lets it. Trust takes time to build. It is not clear that Mr Immelt will be afforded the luxury.



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Chief executives

Nicer at the top

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Tough bosses are out, teddy bears in

BIG business is mass entertainment in America. Like all entertainers, the stars of the show ought to know what their audience wants. It used to be enough for company bosses simply to be tough: think of “Neutron” Jack Welch at General Electric, gruff-and-tough Lou Gerstner at IBM or “Don” Michael Armstrong at AT&T. But tastes are fickle. One-time food-industry king Frank Perdue's TV pitch (“It takes a tough man to make a tender chicken”) gets the chief executive only so far with today's touchy-feely audience. Increasingly, America's business leaders need a cuddly side too.

Consider: Jeff Immelt, Mr Welch's replacement at GE, is said to be every bit as tough as his red-blooded predecessor. Yet he recently appeared on the cover of *Fortune* magazine, open-shirted and woolly-jumpered, looking about as mean as a teddy bear. When he gets mad, we are told, Sam Palmisano, the “people guy” who took over from Mr Gerstner at IBM recently, starts snapping pencils. Bill Ford, the puppy-eyed environmentalist who has replaced brutish Jacques Nasser at Ford, stars in his own TV ads, in which he promotes family values. Louis Camilleri (Philip Morris), Richard Parsons (chief executive-elect at AOL Time Warner) and Dave Dorman (boss-in-waiting at AT&T) are all polishing up the same act: it pays to be nice.

Does it? Daniel Goleman, a business-book writer, has peddled the nice-is-good theme for several years, and done rather well for himself. In his latest offering (“Primal Leadership: Realising the Power of Emotional Intelligence”, Harvard Business School) he counsels business leaders to create a “reservoir of positivity that inspires passion and motivates people”. The rise of the “knowledge worker”, the shift from mass manufacturing to people-friendly service businesses and the democratising influence of IT all point to a future in which the boss needs to be more open and approachable—the kind of person you wouldn't mind going fishing with for a couple of days, as John Allen of Lippincott & Margulies, an image consultancy, puts it.

All guff dreamed up by an overactive public-relations industry? Perhaps. But it is surely telling that business leaders feel the need at least to appear nice. Studies suggest that company bosses are spending more time worrying about their public image than ever, and with good cause, because a large chunk of the value of their companies depends on it. The punters are clearly with Mr Goleman: nice is good. The real trick will be to keep up the performance when the cameras have stopped rolling.

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Russian management

Hunting for help

Mar 14th 2002 | MOSCOW
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New opportunities for Central Europe's managers

RUSSIAN companies wanting to run themselves properly must either develop local talent, or hire it from abroad. Neither option is ideal. Locals are footloose and inexperienced if young, hard to retrain if old. Westerners, on the other hand, are costly, fussy and not always effective. Russian oil companies use experts such as Halliburton and Schlumberger extensively (and expensively). Probably the two best-run large businesses in the country are mobile-phone companies that rely heavily on their outside investors for know-how.

Another option is to use people from more advanced post-communist countries. Multinationals wanting to transfer their skills eastwards have been doing this for years. Now there are signs of Russian businesses doing the same. An example is Alfa Bank, one of the biggest private-sector banks in the country, which has hired a Pole, Maciej Lebkowski, as head of its retail banking. His task is to launch what no Russian bank has really attempted: western-style products and customer service.

Mr Lebkowski's experience in Poland fits the bill. One job involved opening 100 branches, a call centre and an Internet bank in eight months. He speaks Russian too. Nonetheless, the move has raised eyebrows. History means that Russians and Poles are not instinctive friends. Many Russians resent their former captive's relative economic and political success since the collapse of communism. The solution, Mr Lebkowski says, is to be visibly fair-minded, and to refrain from offending national pride by criticising Russia.

Alfa found Mr Lebkowski through Central Search, a headhunter specialising in Central Europe. The same route also produced a Czech, Martin Pilecky, to revamp its ramshackle information technology. Alfa's bosses reckoned that Central Europeans would have the right mix of western experience with an understanding of post-communist conditions.

Could Alfa be the start of a trend? Central Search says it has been asked to look for more Central Europeans for senior posts at other Russian companies. Poles, Czechs and Hungarians may well find a stint in Russia both more challenging and more lucrative than the well-ploughed fields at home. And, unlike previous generations of Central Europeans, who ended up on extended trips to Siberia, they can go home whenever they want to.

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Television

Worth every million

Mar 14th 2002
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Why are television networks splashing out on their stars in a downturn?

AP

Letterman applauds another pay rise

PERHAPS it should come as no surprise this week to learn that, after a frenzy of speculation and intrigue, David Letterman, the coolly ironic presenter of the “Late Show” on CBS, has agreed to renew his contract with the American television network—for a reported $31.5m a year—and will not, after all, be defecting to ABC, a rival. Mr Letterman is a star, and his industry is show business. The show may be taped in New York, but the logic is pure Hollywood. And his is but the latest in a string of multi-million-dollar deals. Earlier this year, Katie Couric, a presenter on NBC's “Today” show, renewed her contract for a reported $15m-16m a year. The actors in “Friends”, a comedy series, have each just signed up for another season on NBC for $1m an episode.

Who would have thought that the media industry was in the middle of the sharpest downturn it can recall? Advertising revenues have slumped. Profits at all the networks have shrivelled. The TV companies are less able to fork out now for higher programming costs than they have been in a long time. Most of them are creaking under the extravagant prices they have paid to secure broadcast rights for sports—and some are trying to renegotiate these deals. The cost of talent, meanwhile, grows in the good times—and keeps on growing in the bad. How can this be?

The short answer is that, as the broadcast networks have lost viewers to the upstart cable channels, they need all the more desperately to lure the stars that will keep their remaining viewers tuned in. The prime-time share of all television viewing bagged by the networks has shrunk to just over half, down from about three-quarters a decade ago. This has made network television more hit-driven than ever before. One show can virtually make or break a network. Where would NBC be without “Friends”? Where is ABC now that “Who Wants to be a Millionaire” has faded? Had Mr Letterman defected to ABC, CBS would have been badly bruised—hence its readiness to keep paying more to keep him.

His decision to stay, however, is little consolation to those who see in the saga a relentless push towards the triumph of ratings-driven chat over serious current affairs. ABC, owned by Disney, and languishing in third place in the overall network ratings, behind NBC and CBS (but ahead of Fox), has now managed to raise doubts about its own commitment to serious news. The producers of “Nightline”, the venerable news programme that Mr Letterman would have shunted aside had he joined ABC, are up in arms. In the aftermath of September 11th, there were many grave pronouncements about the return of a serious agenda to the gossip-filled schedule. The Letterman episode is a reminder that television is showbiz, and that “talent” rules. What else is new?

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Buying Chinese companies

A foot in the door

Mar 14th 2002 | HONG KONG
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The beginnings of a potentially huge market

Get article background

DEPENDING on how you look at it, China either has a gigantic market for mergers and acquisitions or virtually none at all. It is gigantic insofar as Beijing is reorganising every big industry—from aviation to telecoms—by splitting up former state monopolies and creating new companies. The asset transfers involved are enormous. But there is usually no cash changing hands, no valuation of the assets transferred, and ultimately no change of control since the state is simply rejigging its holdings. Nor have foreigners been allowed to take over whole companies. China's party cadres are eager to get foreign capital and technology, but not at all eager to give up control. So they have, so far, let foreign investors buy only stakes in joint ventures with Chinese partners.

Hence the excitement among western investment banks over two recent deals that appear to signal the beginnings of a proper market for mergers and acquisitions. In one, Emerson, an American electronics company, bought 100% of a division of Huawei, a privately-run telecoms-equipment maker that is considered one of China's best companies. In the other deal, Alcatel of France increased its stake in a joint venture with a state-owned enterprise in Shanghai, thereby gaining control. Both deals were modest—less than $1 billion—but they are the first two foreign takeovers of Chinese companies.

To do them required clarifying reams of legal ambiguities. With luck, they have set valuable precedents for future deals. Harry van Dyke, a banker at Morgan Stanley, an investment bank that advised in both takeovers, says that the main complication had nothing to do with the deals' economics, but concerned winning approval from the various branches of government, which took months.

Doing deals in China will remain difficult for some time. As Emerson and Huawei entered into negotiations, China's securities regulator began drafting a takeover code of sorts and asked foreign law firms and banks for their comments. But Beijing has since dropped plans for a code.

Still, the likes of Morgan Stanley smell blood. China already dominates the Asian market for initial public share offerings, thanks to listings of its giant state-owned enterprises. Before long, the bankers are hoping, it will match that with a flow of merger deals.

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Volkswagen

Problems with the people's car

Mar 14th 2002
From The Economist print edition

Volkswagen announced another rise in profits this week. So all's well? Hardly

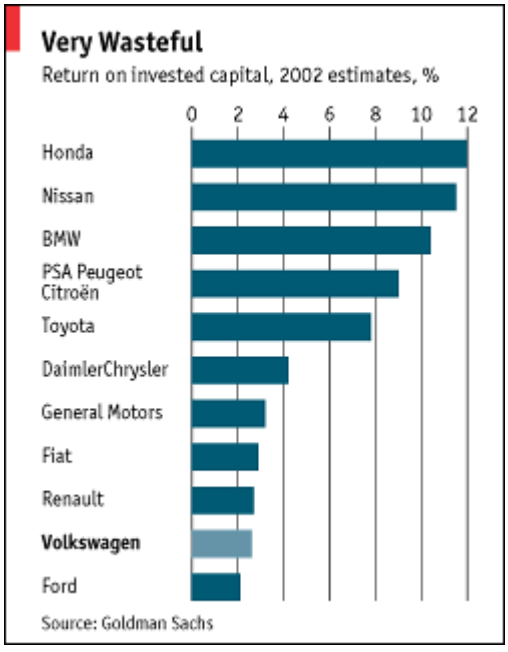
WHEN Bernd Pischetsrieder, chairman-elect of Volkswagen (VW), takes over next month, his inheritance will certainly be richer than that of his predecessor, Ferdinand Piëch. Mr Piëch was drafted in from Porsche to rescue a sputtering VW in 1993, a year when it made losses of DM1.9 billion ($1.1 billion). Apart from high costs in its German heartland of Lower Saxony, VW was at the time bleeding cash from its acquisition of SEAT, a Spanish car maker.

Mr Piëch's hands were tied in dealing with this crisis. Not only do German labour laws make lay-offs expensive, but the government of Lower Saxony, a 20% shareholder in VW, frowned on deep cuts. The solution was a dash for growth: more than 50 models, many of which shared vehicle "platforms" (the basic underpinnings of a car). Output rose from 3.4m vehicles in 1993 to 5.1m last year, as VW extended a brand portfolio that now includes Audi, SEAT and Skoda, as well as questionable luxurious embellishments such as Bentley, Lamborghini and Bugatti.

This was enough to cement VW's position as Europe's biggest car manufacturer. It helps that sales in America have boomed. VW's market share there, less than 1% a decade ago, is now a whisker over 5%, thanks largely to the new Beetle, as much of a smash hit in America as it is a flop in Europe.

Success in America (which now accounts for 40% of sales) has helped the bottom line. This week VW announced a pre-tax profit for 2001 of *euro*4.4 billion ($3.9 billion). This represents a satisfactory gross profit margin of 5% (albeit below the company's target of 6.5%). Even in a weakening market this year, VW predicts that its profits will be stable. Part of the secret is the company's reputation for quality, which allows it to charge a premium over competing products.

But behind these figures lie some problems. For one thing, the profits look less good when compared to the vast amounts of capital employed within VW. According to Keith Hayes, a motor-industry analyst at Goldman Sachs, VW's return on invested capital this year will be a meagre 2.6% (see chart). That compares with over 10% for BMW, a German rival, and 9% for PSA Peugeot Citroën, the French company that is number two to VW in the European market. This has weighed on VW's shares; so has the fact that Lower Saxony's stake in effect blocks any takeover attempt (although the European Commission is trying to remove this barrier).



When Mr Pischetsrieder was chief executive of BMW (a job he lost in 1999 after botching the acquisition of Britain's Rover), he was scornful of VW's proliferation of brands. He argued that consumers would soon twig that a Skoda made by VW was little different from a more expensive Golf, and that the cheaper cars would thus cannibalise sales of the pricier ones, undermining the profits they earn. Goldman Sachs reckons that only a handful of VW's products, such as the Golf, Passat and the Audi A4, make much money.

Brand confusion is not the only problem. Despite its many marques, VW is absent from key segments, such as the compact multi-purpose vehicle (MPV). Another gap is sport-utility vehicles (SUVs); only now is VW introducing a model of its own. As Mr Pischetsrieder acknowledges, VW's models are huddled

together, and often overlap, in the middle of the market.

Classic Skoda, sporty SEAT

Consequently, his twin priorities are to sort out the brand muddle and to fill in gaps, particularly in the VW and SEAT ranges. At least a start has been made. Last year, the brands were aligned in two groups. In one improbable grouping is VW, Skoda and Bentley, known as the “classic” brands. In the other is the equally motley crew of Audi, SEAT and Lamborghini, known as the “sporty” brands. A central committee, created last year, will make sure that research and development and new-product development are not duplicated. “There will be more group leadership,” promises Jens Neumann, director in charge of strategy.

But Mr Pischetsrieder is doing more than a tidy-up. This month he launches the Phaeton, a large upmarket saloon that can travel at 200 mph (320 kph) and cost upwards of *euro*50,000. One has already been given to Gerhard Schröder, the German chancellor and a former member of VW's board. But this model, which cost about *euro*1 billion to develop, will not contribute to VW's profits. Even Mr Pischetsrieder admits that its current versions will do no more than break even. He claims, however, that the Phaeton will bring other benefits, by setting a benchmark for excellence within the company and exercising a “halo effect” on the VW brand. “We must add emotion to the brand,” he says.

By doing this, he hopes to widen the premium that VW can charge over its rivals in the mass market. At the moment, he points out, there is nothing with a VW badge to offer customers who want fancier cars costing *euro*30,000 or more. As Mr Neumann puts it: “We want to keep hold of customers who start off with Golfs.”

Beyond this extension of the VW brand, Mr Pischetsrieder has big ambitions for Bentley. A new mid-sized model will go into production later this year. Insiders say that this move downmarket by Bentley will involve borrowing lots of parts from the Phaeton.

But the real question over VW's ownership of brands such as Bentley and Lamborghini is: why bother? Both make losses, and have little prospect of ever turning much of a profit. Nor do they cast any glow over the VW brand, as the Phaeton might. The best that can be said about them is that they look and sound nice. These days, the car business is supposed to be about more than that.

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Face value

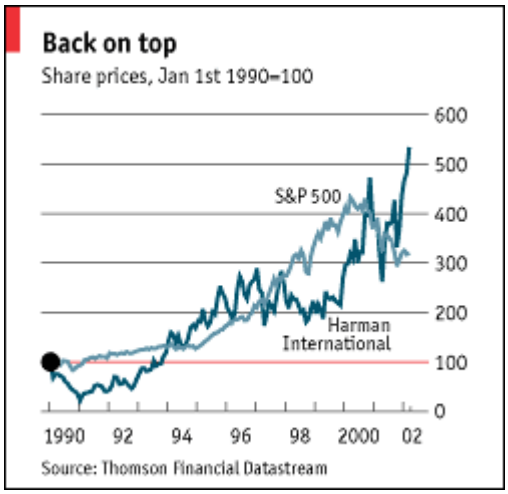
Dr Feelgood

Mar 14th 2002
From The Economist print edition

Are Sidney Harman and his kind the answer to America Inc's woes?

HE HAS squeezed a lot into his 83 years. He has married twice, and fathered six children. He has run an experimental Quaker college. He has served in government, as Jimmy Carter's deputy secretary of commerce. He has founded a world-class company, Harman International, which he still runs. And, if he is to be believed, he has even mastered the future—or at least, the next few years of it. Harman International, says Sidney Harman, its chairman, who speaks not in humble sentences but whole paragraphs, “is by every reference the dominant figure in the most important development in the auto industry in decades.” Phew!

Besides preaching management, he has practised it—successfully. Harman International was founded 50 years ago and is listed in New York. It makes some of the finest (and most expensive) home-entertainment and professional hi-fi systems in the world. With a collection of top-class brands, such as Harman Kardon, JBL and Mark Levinson, it had sales last year of $1.7 billion. Other firms, says Mr Harman, live off their promises. When Harman International unwrapped its strategy to dominate the market for car “infotainment” systems (which combine audio, video, navigation, telecoms and Internet access), the company's fibre-optic standard had already won over the likes of Mercedes-Benz, Audi and BMW.



As a result, Mr Harman's customers do his marketing for him (“Lexus sells its cars as containers for our sound system. It's marvellous”). But he is in no hurry to enlighten Wall Street about the benefits this will bring to his margins. Let the analysts work it out in their own time, he says. Mr Harman is “not very damn interested” in public relations. His offices in Washington are within a stone's throw of the centre of American political power, but he has never hired a lobbyist. He makes announcements, he says, when he has something to announce. He cares little that few have noticed his achievements. His products, quite literally, speak for themselves.

If these quaint attitudes put Mr Harman at odds with Wall Street's slick marketing machine, his management ideas seem even more unorthodox. Their origins lie in the 1960s, when Mr Harman was running both his company and a Quaker college that encouraged students to take responsibility for their own education. A dispute between labour and management at a factory in Tennessee over—of all things—a buzzer that sounded the coffee break opened his eyes to the factory's ridiculous, top-down management style. Perhaps he could apply some radical Quaker thinking to the factory floor.

From there have flowed all sorts of experiments to encourage responsibility and to improve the welfare of his 10,000 employees. Harman International's factory in Suzhou, China, provides air-conditioning, showers, English tuition and monthly parties at which workers can mingle with managers. The recent murder of an American worker by her former husband prompted a company programme on domestic violence. When he has had to cut costs, Mr Harman has done so with unAmerican compassion. Programmes at his California plants in the mid-1990s placed surplus workers in spun-off businesses, including one that made clocks from waste wood. Workers, says Mr Harman, “should have a serious emotional connection to their company.”

It's the people, stupid

Despite his illustrious career, few Americans have even heard of Mr Harman's unorthodox management ideas, or the model factories where he has put them to work. Yet that may soon change. His ideas may win more willing listeners now that America's easy self-confidence has vanished along with the long economic boom of the 1990s. Overnight, the nation's business heroes have become villains: the newspapers brim with tales of wicked bosses and wronged workers. The collapse of Enron, wail management gurus, reflects a sick corporate culture. One such guru, Warren Bennis, has even suggested that Mr Harman is the model that the post-Enron generation should emulate.

In another man, the Harman approach might come wrapped in ideology or sanctimony. Although he remembers reading Dostoevsky under the blankets at night as a youngster, Mr Harman's style is more that of blustery businessman than of earnest intellectual. “The old man”, as he calls himself, might have grown more prickly with age, but he still has the charm of the great salesman he once was, crisscrossing America with his pioneering sound systems. Companies should heed the way he treats his workers, he says, because it is good business practice.

Is it? Mr Harman claims improvements in productivity. But devoted attention to workers' welfare has produced quite the opposite in parts of Europe and in Japan, where once-mighty companies are struggling under the burden of their in-house unemployed. Mr Harman's mastery of the car industry, meanwhile, looks less like the consequence of his wonderfully productive workers than of his own business acumen: a series of acquisitions that has given Harman International control of key hardware and software. Mr Harman's management ideas seem mainly motivated by nothing more complicated than a gentle, deeply felt regard for his fellow humans.

Yet maybe American business leaders would be wise, in their current mess, to devote more attention to their workers, and less to the investment bankers, analysts and armies of public-relations people who dress them up and put on the show for shareholders. In a knowledge-intensive world, a company's most valuable assets are its workers, and they appear to be seriously disenchanted with their lot at the moment. If what is good for employees is also good for the company, says Mr Harman, “how can anybody quarrel with you?”

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Room for improvement

Mar 14th 2002 | FRANKFURT
From The Economist print edition

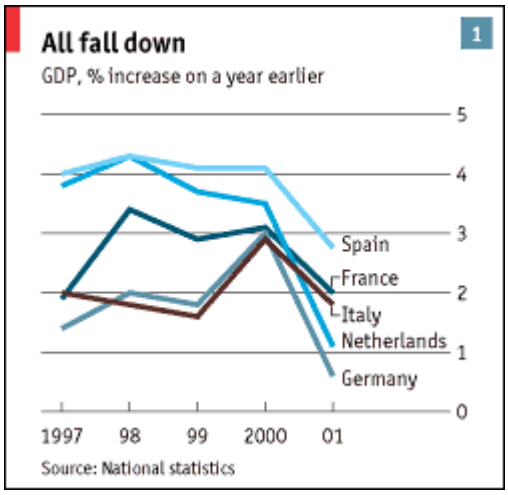
Is the spate of elections in Europe this year going to alter the region's economic prospects?

"IT'S the economy, stupid." Although the novelty wore off Bill Clinton's 1992 presidential-campaign mantra long ago, be prepared to hear the cliché again and again in Europe in the coming months. Of the 15 European Union governments at the Barcelona summit on March 15th and 16th, no fewer than six face national elections this year, beginning with Portugal on the very next day, March 17th, and ending with Germany on September 22nd. France even has two: one for the presidency in April and May, followed by a parliamentary poll in June.

Most if not all of these governments would have been far happier to face their voters in the economic circumstances of a year ago. At last year's EU summit in Stockholm, France's prime minister, Lionel Jospin, confidently predicted that GDP growth in the EU would be a healthy 3% in 2001, the same as in 2000.

Since then, though, Europe's economies have stumbled. In the Netherlands, where electors go to the polls in May, GDP was flat in the last two quarters of last year. In France, growth slipped to 2% in 2001 after averaging over 3% in the three previous years (see chart 1). The French economy actually contracted in the fourth quarter, for the first time in five years. Europe's sickliest economy, though, is its biggest, Germany. In the first half of 2000, the country seemed to have at last shaken off years of torpor. Yet in the middle of that year it stalled, and it has struggled ever since, shrinking in the third and fourth quarters of 2001. Last year, German GDP grew by a measly 0.6%, the lowest rate in the EU.

Unemployment is now around 4m, making a mockery of an election promise made in 1998 by Gerhard Schröder, chancellor since then, that the dole queue would shrink to 3.5m by this year. The feebleness of the economy is the chief ground of attack for Edmund Stoiber, Mr Schröder's conservative challenger in this September's election.



Between them, France and Germany account for more than half the output of the 12-member euro area (the EU countries that have adopted a common currency). Add Italy (whose GDP also fell at the end of 2001, but where no election is due this year), and the proportion rises to 70%. Not surprisingly, the whole region's GDP slid by 0.2% in the last quarter of 2001, the first drop for almost nine years. In Britain, the biggest EU economy outside the euro area, GDP was flat.

Europe's slowdown, of course, did not happen in isolation. America's weakness was pulling the old continent down even before September 11th dealt an extra blow to economies on both sides of the Atlantic. What is striking is the fact that Europe lacked the strength to take up the slack in the world

economy when the American boom faltered.

Compacted

The low point of the economic cycle is probably already past. Although the evidence consists of perkier business surveys rather than hard data on industrial production and suchlike, Europe's big economies (and the euro area as a whole) seem to be growing again. However, they are growing only slowly, and they are not expected to look truly healthy until the second half of this year. It seems that America, not Europe, will do most of the work of pulling the world out of its lull: the latest prediction from the panel of forecasters polled monthly by *The Economist* is that America's GDP will grow by 1.7% this year, against the euro area's mere 1.2%.

In the short run, the normal prescription for a stalling economy is to reduce interest rates or loosen budgets. The euro area's central banks, however, no longer have such freedom, and their finance ministers are also constrained. Since 1999, interest rates have been set by the European Central Bank (ECB), and it chooses monetary policy to fit the euro area as a whole.

The ECB cut rates last year, but less sharply than America's Federal Reserve or Britain's Bank of England. Rates are now unlikely to fall below 3.25%, where they have been since November, even though Wim Duisenberg, the president of the ECB, says that he expects inflation to fall below 2%, the top of the bank's target range, in the next few months. By the end of the year, said Mr Duisenberg last week, growth in the euro zone should be back to its sustainable trend, which he puts at 2.5% a year.

The euro area's single interest rate is unlikely to suit all 12 members at once. Last year, it did Germany in particular little good. An independent German central bank would probably have cut rates faster and further than the ECB did. The policy probably fitted France better. After three years of decent growth (compared with Germany's one), the French economy was closer to full capacity a year ago, and therefore was less in need of deeper cuts in interest rates.

On budgetary policy, governments are fenced in by the “stability and growth pact”, signed at the behest of the previous German government. They must strive to bring their budgets into balance, and they must not allow deficits to rise above 3% of their GDP except in exceptional circumstances. Breaches of this 3% limit can result in hefty fines.

Unfortunately, strict adherence to the pact can make economic slowdowns worse. According to the European Commission, four countries—France, Germany, Italy and Portugal—have to do more to bring their budgets into structural balance. This is awkward for all of them, but for Germany especially. The father of the stability and growth pact is close to breaking it: its deficit was 2.7% of GDP last year, and the European Commission expects the same in 2002. Portugal's public finances, though not as close to the limit as Germany's, are in a dreadful state, and are one reason why the ruling Socialist Party is in danger of losing this weekend's election.

Last month, the commission thought that the size of Germany's deficit warranted a formal caution. In the event, finance ministers from other countries saved their German colleague, Hans Eichel, from this embarrassment. Nonetheless, Mr Eichel had to reaffirm that Germany's deficit would be “near” balance by 2004. This is difficult, says Elga Bartsch, an economist with Morgan Stanley, but it can be done. To pave the way for tax reforms that began in 2001, she says, Mr Eichel pushed through an austerity package in the 2000 budget about as tough as the one that he now needs to introduce.

Prolonged labour pains

Europe's difficulties, though, run deeper than a cyclical dip. Time and again, its governments have said that their economies need reforms (mainly the deregulation of product and labour markets) that will pull more people into work and raise their productivity. There have been some successes. France's growth surge in the late 1990s, for example, owed much to cuts in employers' social-security contributions earlier in the decade. This promoted employment, which in turn fed demand.

Yet progress overall remains disappointing. Energy-market liberalisation, high on the Barcelona summit's agenda, has been particularly slow-moving. France's state-owned electricity producer, Electricité de France (EdF), has been cheerfully buying stakes in suppliers elsewhere while operating in a closed

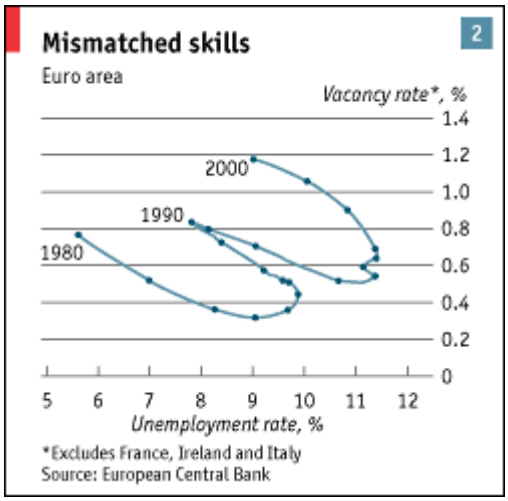
market at home. Jean Syrota, the country's electricity regulator, indicated this week that France might at last agree to some modest liberalisation at the Barcelona meeting.

Although the market in next-door Germany is freer, it is becoming dominated by two big companies, E.ON and RWE. This is worrying the country's competition authority, the Federal Cartel Office, which recently blocked E.ON's proposed takeover of Ruhrgas, Germany's biggest gas supplier. E.ON has appealed to the government to reverse the decision. It says it should be judged on its ability to compete in Europe, not on its strength at home. The company may well get its way: ministers have sounded sympathetic in the past. However, a decision in E.ON's favour would smack of the desire to create a national champion to take on EdF at the expense of German consumers.

The biggest worry, though, remains Europe's labour markets. Admittedly, some countries, such as Britain and Ireland, already have fairly free labour markets, and in the second half of the 1990s employment grew impressively in Finland, the Netherlands and Spain. Indeed, says the ECB in a report published this week, between 1997 and 2001 employment rose just as quickly in the euro area as in the United States. This was too swift, says the bank, to have been merely a cyclical phenomenon. Nonetheless, the report concludes, a lot remains to be done.

Unemployment is still high in the euro area—8.4% against America's 5.5% and Britain's 5.2%—yet many companies still report difficulties in recruiting workers. In the euro area as a whole (though not in all its member countries) this mismatch between vacancies and unemployment seems to have deteriorated. During cyclical booms, unemployment falls and the number of vacancies rises; when the economy slows down, the reverse happens. However, the curve tracing out this cyclical relationship has drifted upwards (see chart 2).

Part of the reason is that employers increasingly want highly educated workers, so those with poor educational levels are ill-equipped for the jobs on offer. In France and Germany, this problem has become acute. Furthermore, in some countries, including Belgium, Germany and Italy, vacancies and unemployment are concentrated in different areas. Workers do not move to where the jobs are, and firms are not attracted to the areas where there is high unemployment.



The relative size of the three biggest economies in the euro area (Germany, France and Italy) means that their reform efforts will go a long way towards determining the growth prospects of the whole zone. In Italy, things are shifting. The government has proposed to slaughter a sacred cow of industrial relations—a law permitting courts to order the rehiring, with compensation, of sacked workers. It also wants to promote regional wage differentials and to reform labour law more generally. Carlo Monticelli, an economist at Deutsche Bank, says that the government has shown admirable resolve so far. “But a tougher test lies ahead”, he says, “when further proposals to make firing workers easier will have to be discussed.”

Germany long ago ceased to be Europe's economic motor. After a post-reunification surge, in the ten years to 2001 GDP grew by a mere 1.5% a year on average. A prime cause of its malaise is the former East Germany, which has been a bigger drag on the national economy, and for longer, than optimists had hoped a decade ago. GDP in the “new states” has grown more slowly than in the west every year since 1997; GDP per head there is still less than two-thirds of the western average. As well as pulling down the national growth rate in statistical terms, the east is also a direct burden on the west, through subsidies amounting to 4.5% of western GDP.

Poorer countries, by and large, ought to catch up with richer ones when they have (like eastern Germany) access to the same technology and markets as the leaders. This has been happening in Ireland, Portugal and Spain over the past decade, but not in eastern Germany. Part of the explanation is that in the early 1990s investment poured into construction. This caused a giddy boom that has left a nasty hangover. On top of this, although eastern wages are lower than in the west, productivity is relatively lower still. The mismatch is narrowing, but it persists, hurting employment prospects in the east.

Western Germany has been no star either, and several reforms have been introduced to sharpen up the

economy. Income- and corporation-tax rates have been cut, and capital-gains tax on sales of corporate cross-shareholdings has been abolished. A start has been made on encouraging private pensions, to relieve the overburdened state system, and there is more in the pipeline. Further cuts in income tax are due in 2003 and 2005, and a law that is intended to improve the regulation of financial markets is going through parliament. Legislation to ease immigration, especially of the highly qualified workers that Germany lacks, has passed the lower house of parliament, although it may yet be blocked by conservatives in the upper house.

Each step forward, however, is often accompanied by a glance, or even a half-step, back. Having blocked a proposed EU takeover code, Germany passed a national takeover law giving managers more freedom to thwart hostile bids than the EU code would have done. Although some laws limiting retail competition have been abolished, absurdities remain. In January C&A, a department store, fell foul of a court for offering 20% price reductions in the first few days after the introduction of euro notes and coins.

The labour market is still highly regulated, and non-wage costs—eg, for social security and health insurance—are high. More reforms, however, are on the way. A new scheme to subsidise the social-security payments of the low-paid is being rolled out, and after a recent scandal at the Federal Labour Office, which had greatly exaggerated its success in placing jobless people in work, restrictions on private employment agencies are to be loosened. The office's new head, Florian Gerster, who starts work next week, has already suggested cutting unemployment benefits for older workers to sharpen work incentives. Whether such steps are taken, though, will be Mr Schröder's decision, or maybe Mr Stoiber's.

Less work, more workers?

Despite its success in the late 1990s, France still has plenty to do. It has made less progress than Germany on pension reform, for example. And, like Germany, it is struggling to contain the costs of health care in the face of rising demand, an ageing population and the opposition of doctors and other interest groups. In some respects, despite the reforms so far, the French labour market is in a worse state than Germany's. On a comparable basis, France has higher unemployment; among young people who want to work, its unemployment rate is almost three times its neighbour's.

France's burst of growth between 1998 and 2000 brought it quickly to the limits of its capacity. Without more workers or higher productivity, the economy cannot maintain such a pace. According to a recent economic report by the OECD, estimates of the country's NAIRU (“non-accelerating-inflation rate of unemployment”), the furthest that unemployment can fall before labour-market strains start to push up inflation, lie between 8.5% and 9.5%, a high figure compared with America or Britain. French unemployment is now in the middle of that range.

Mr Jospin's chief attempt to create employment has been to limit the working week to 35 hours. If everyone who has a job works less, the theory goes, more workers will be needed. At first, this applied only to firms with more than 20 employees; now it applies to smaller companies and the civil service too. Although mocked by economists as a prime example of the “lump-of-labour” fallacy—the idea that there is only so much work to go around—the government claims that it had created 240,000 jobs by the end of 2000.

Hmm. Working out the effects of the scheme is hard. Its effects on labour costs were softened by subsidies, including cuts in employers' social-security payments. Even if so many jobs have been created, reckons the OECD, these payments have made the law “an extremely costly employment policy”, an extra burden on the budget that French taxpayers can ill afford.

Companies have also reorganised themselves in ways that might have made sense for them anyway. Although they are keeping to the limit on average, they sometimes ask workers to do more than 35 hours, and sometimes to do less. That way, the labour supply varies with the demand.

This weekend in Barcelona, Europe's governments will no doubt reaffirm their commitment to reform. Some of them may even mean it. How much will the elections change things? In both France and Germany, none of the main candidates for the top jobs has yet promised anything astonishingly new. More slow progress is as much as Europe's voters can hope for.

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Aid effectiveness

Help in the right places

Mar 14th 2002 | WASHINGTON, DC
From The Economist print edition

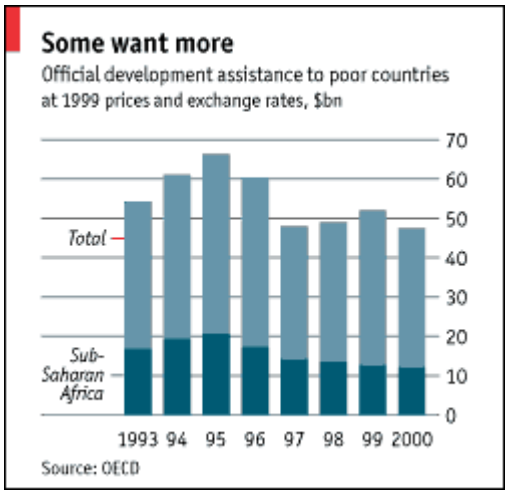
EPA

Untangling the aid debate

FIFTY-FOUR heads of government and hundreds of ministers arrive in Monterrey, Mexico next week for a huge United Nations conference on financing development. For supporters of foreign aid, particularly James Wolfensohn, the boss of the World Bank, this is an occasion for rich countries to pledge a doubling of their foreign aid. Mr Wolfensohn wants rich countries to boost their aid budgets by $10 billion in each of the next five years, to $100 billion a year.

That, he reckons, is the money it will take to reach the ambitious development goals—which include cutting poverty in half, reducing child mortality by two-thirds and ensuring universal primary education—that 189 countries committed themselves to in 2000. Achieving these goals, Mr Wolfensohn claims, is not only right from a moral point of view. It is also essential for rich-world security.

One loud political voice disagrees. Paul O'Neill, America's treasury secretary, consistently pours cold water on the need for more aid, claiming that there is scant evidence that foreign assistance has worked. In particular, he directs his criticism at the World Bank. Mr O'Neill reckons that, by lending money to poor countries instead of giving it away in the form of grants, the World Bank has driven them "into a ditch". The Bush administration wants the Bank to give half of its help for the poorest countries as grants, something that Europeans, in particular, strongly oppose. Further, the administration wants any increase in American contributions to the Bank's soft-loan arm to depend on measurable evidence of success. Clearly Mr O'Neill is the skunk at the Monterrey party. But is he a skunk with a point?



Stung by Mr O'Neill's criticism, the World Bank's bureaucrats have been working overtime to prove him wrong. A new report on aid effectiveness tries to pull together the considerable evidence on whether aid works. Some of its approaches are unlikely to convince the sceptic. The Bank, for instance, cites success stories for individual countries, notably the spectacular reduction of poverty in China, as evidence that aid works. The problem with this example is that foreign aid played a negligible role in China's economic growth (amounting to well under 1% of GDP in the 1990s). The role of World Bank

advice was probably more important, but that too is disputed.

Similarly, World Bank claims that its own projects have become more successful are unlikely to convince Mr O'Neill. According to the Bank's quasi-independent evaluations group, over 80% of Bank projects are now graded “successful”, compared with under 60% in the late 1980s. According to Bill Easterly, a Bank employee currently at the Centre for Global Development, a think-tank, these evaluations are “totally subjective and unreliable”.

Far more persuasive are the welter of academic studies analysing the impact of aid by looking econometrically at the experience of many countries over the past 40 years. On one level, Mr O'Neill has a point. It is hard to find a clear correlation between overall aid flows on the one hand, and economic growth or reductions in poverty on the other.

Yet there is now a strong body of evidence, led by the research of David Dollar, Craig Burnside and Paul Collier, all economists at the World Bank, that aid does boost growth when countries have reasonable economic policies. And the poorer the country, the more effective aid is at reducing poverty. The trouble is, foreign aid has rarely been allocated with these points in mind. In 1990, for instance, countries with bad policies and institutions got an average of $44 a person in aid, while those with better policies got $39.

Things have changed since then. By the late 1990s, countries with better policies got $29 of aid a person, while worse countries got $16. And—contrary to Mr O'Neill's assertions—the World Bank is a particularly effective poverty alleviator, because its subsidised lending to the poorest countries depends more on good economic performance than that of many bilateral donors. Even in 1990 the World Bank spent more than twice as much per head on poor countries with good policies than on those with bad policies. Now the ratio has risen further, with good performers getting $6.50 a head, compared with $2.30 for weaker countries. Overall, World Bank lending to the poorest is now 60% more effective than in 1990 and 50% more than general foreign aid.

Mr O'Neill attacks the Bank on another flank when he complains about its insistence on lending money, rather than giving it, to these countries. World Bank officials, and many European shareholders, claim that loans rather than grants impose discipline on a borrowing country. Their real reason for objecting to Mr O'Neill's proposal, though, is a concern that shifting from loans to grants would cut off an important source of future funding (the repayments from today's borrowers). Given America's general aid stinginess, their concern is not surprising.

While the evidence contradicts Mr O'Neill's idea that all aid has been a waste of time, it also exposes weaknesses in Mr Wolfensohn's own argument, particularly the idea that aid should play a big role in the war against terrorism. Put aside the obvious point that Saudi Arabia, home to many al-Qaeda terrorists, is not poor. The collapsed, failed states that harbour terrorism are exactly the places where large-scale foreign aid does not work. According to the Bank's own calculations, there are 28 countries that are home to 500m people, mostly in sub-Saharan Africa, where aid is unlikely to work. Giving more aid to these failed states will not make the world a safer place.

More broadly, the academic research on the effectiveness of aid suggests that the emphasis should be on choosing the right countries and programmes, rather than on quantity. A recent study by Messrs Dollar and Collier suggests that, given current policies and aid levels, sub-Saharan Africa will reduce poverty by 11% by 2015, far short of the goals set in 2000. Even without any improvement in overall economic policies in Africa, a 50% increase in aid flows would double poverty reduction, to 22%—so long as it was coupled with efficient reallocation of aid towards poor countries with good policies.

Really dramatic progress towards the goals cannot come from aid alone. That will take a combination of better economic policies in poor countries, more open trade regimes in rich ones, and aid flows that are not just higher but also better allocated. Doubling aid cannot do it alone.

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Evaluating aid

Rattling Europe's skeletons

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A row in Brussels

WHEN Development Strategies, a British consultancy, evaluated the European Commission's aid programme to Albania last year, it found delay, inefficiency and “financial and contractual irregularities” and a “total breakdown of team-work” between Brussels and the delegation in Albania.

The findings angered the commission's evaluation unit. When the consultancy began a new evaluation, this time of aid to South Africa, it was told that the key issues would be set by a steering group of commission and local delegation staff. In addition, EuropeAid, the department that administers commission aid, set two new guidelines for future evaluations. First, their management was to be the responsibility of local delegations or regional offices, the very bodies that usually administer the aid in the first place. Second, evaluators must not tackle audit or monitoring issues.

Faced with these constraints, the consultants resigned. They have now written to Chris Patten, commissioner for external relations, who once said of the EU aid programme: “Every time they open a cupboard, a skeleton falls out.” They argue that the changes reduce transparency, with serious implications: the 12 country evaluations they have so far undertaken for the commission have found “very serious weaknesses in commission internal controls, monitoring and insufficient external audits”. These problems have grown worse, they claim, since EuropeAid was set up.

Commission officials argue that they are making big reforms, some of which account for this row. Getting a steering committee to set the key issues ensures that evaluations are well focused. Delegating the commissioning of evaluators is the best way to handle an increase in reviews, intended to provide closer scrutiny. And evaluators should not try to second-guess auditors, because they rarely have the right skills. The commission says it follows guidelines set by the OECD, which is reviewing Mr Patten's reforms of the evaluation process.

The trouble is, the EU has had so many rattling skeletons that any apparent curtailment of evaluators' freedom looks bad. Brussels should take a leaf from the IMF, which has also had skeleton trouble. Now, the Fund's state-of-the-art evaluation programme has public consultation on almost everything.

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Andersen

Count down

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Andersen looks about to implode

Get article background

IN THE wake of its disastrous involvement with Enron, and of the botched audits of several other companies, the days of Andersen, the world's fifth-biggest accounting firm, suddenly look numbered. A criminal indictment brought by the Department of Justice, accusing Andersen of criminal obstruction for shredding Enron documents, will change the landscape for the firm. Other charges by the Securities and Exchange Commission (SEC) will probably follow, over Andersen's endorsement of Enron's wretched accounts. Add to this stacks of civil litigation from Enron shareholders and employees. Andersen has offered $750m to settle claims, which plaintiffs will consider a paltry sum. No wonder the future looks so bleak.

Andersen says that 300 of its 2,300 audit clients in America have reaffirmed their faith in the firm. All the same, some of America's biggest companies have defected in recent days, including Merck (which had been with Andersen for 30 years), Delta Air Lines (53 years) and Freddie Mac (32 years). Others have placed their relationship with Andersen under review. Andersen itself sacked one client: TheStreet.com, an Internet news service. Its founder, James Cramer, has been scathing about Andersen on television, and Andersen said this made it impossible to work in a “co-operative manner”.

In their attempts in recent days to bleed Andersen of clients, rivals among the big five accounting firms are “like a wolf pack turning on an injured member,” says Lynn Turner, a former chief accountant at the SEC. Certainly, corporations will think twice about keeping on a tainted auditor. For a start, investors who begin to suspect the quality of a company's accounts may mark down the share price. Worse still, for some companies, the auditor may try to allay those suspicions by carrying out too thorough an audit—an equally unwelcome prospect.

Either way, Paul Volcker, a past chairman of the Federal Reserve called in by Andersen to head a new oversight board, points out that really thorough audits will in future come at a higher price—and not just because they will require more work. Mr Volcker insists that Andersen must get to the heart of its internal conflicts of interest, by separating its lucrative consulting business from its auditing work. Without cross-subsidies from consulting, the price of auditing must rise. Put all of this together—more doubt, more scrutiny and more cost—and Andersen has an unappealing sales pitch.

Hence what looks rather like a run on Andersen, says Mr Volcker. The usual antidote for a bank run is a bit of government intervention to restore confidence, and that might have worked nicely for Andersen had its troubles not come at an awkward time. The chairman of the SEC would normally play a key role in such a crisis, for the public interest is not served by having only four big auditors. Yet the current chairman, Harvey Pitt, had such close relationships with Andersen and other accounting firms when he was a lawyer in private practice that he has recused himself from the case. Likewise, both Congress and George Bush's administration are sufficiently embarrassed by their past links with Enron to have no desire to intervene now. Andersen has been left to hang.

Andersen's American partners have desperately sought a rescue, pleading with Ernst & Young, Deloitte Touche Tohmatsu and KPMG. Ernst & Young and Deloitte Touche have since ruled out any merger, fearing that the litigation swamping Andersen could spread. Although a bankruptcy court could, in theory,

resolve claims against Andersen by establishing a dedicated fund for the firm's assets, it could not bar later fraud-related litigation.

A further complication is Andersen's relationship with its affiliates in 83 other countries. These account for more than half of the firm's $9 billion in annual revenues and have not yet been hit by client defections. Rather than acquire Andersen outright, its rivals might simply poach its employees, particularly those that can bring clients with them. Overseas, partners have talked to other accounting firms—in Japan and Europe, to KPMG. The hope within Andersen is that partners around the world move en masse to a chosen firm. But the firm may yet fragment country by country.

Should Andersen survive, Mr Volcker's board proposes radical changes. Consulting for technology systems, strategic planning, law, recruitment, and “aggressive” tax planning would have to be spun off. These services, as well as internal auditing, would be done only for non-audit clients. Auditors would be banned from going directly from Andersen to work for their audit client.

Curiously, rivals do not like these proposals drawn up for Andersen, for fear that they, too, may be forced to follow them. The other four big accounting firms have told Andersen that it is no longer to be included in their collective lobbying of government. Consulting is more lucrative than auditing, so there is strong opposition to any limit.

That is why Mr Volcker wants a reformed Andersen to survive: it would, he says, be a useful example to the other accounting firms. They, too, have botched audits: Cendant (audited by Ernst & Young); Rite Aid, Xerox, and Lernout & Hauspie (KPMG); W.R. Grace and BCCI (PricewaterhouseCoopers); and McKesson (Deloitte Touche). Yet time and again, auditors have resisted reform.

“Ideally,” says Arthur Levitt, past chairman of the SEC, “reforms should come from within. But with just five big firms, there is a lack of competition and thus no incentive.” Now the scale of Andersen's failings offers hope that the industry will be forced to adopt a better structure. But if Andersen goes under, then the chance to try a new structure will be lost, with less competition and less incentive among the remaining four.

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Brazil's banks

Kings of the jungle

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Consolidation keeps foreigners at bay

EPA

The favelas, underbanked

"DARWINIAN" is the word for it, says Luiz Trabuco, the vice-president of Bradesco, Brazil's biggest private-sector bank. In the early 1970s the country had 750 banks, but only the fittest have survived the wild economic swings since then. The weakest either perished or were devoured by their rivals. Only about 150 banks now remain in Brazil. Smaller banks continue to be gobbled up by the big three—Bradesco, Itau and Unibanco, which all defied last year's economic turbulence to make record profits.

Itau this week agreed a $1.5 billion takeover of the Brazilian operations of Italy's IntesaBci, three months after it bought a bank being privatised by the state of Goias. Already this year Bradesco has bought two privately-owned banks, a third one sold by the state of Amazonas, the Brazilian asset-management arm of Deutsche Bank and Ford's car-finance operations. Unibanco has bought nothing since 2000, when it acquired Fininvest from local owners and Banco Bandeirantes from Portugal's CGD. Recently, though, the talk is that Unibanco may buy the Brazilian interests of Spain's BBVA. Though BBVA insists it is in Brazil to stay, it also admits it will not be making further investments in the country for at least two years. Since it risks seeing its already tiny market share shrink further, perhaps it would make sense to fold its interests into Unibanco or another Brazilian bank, in return for a shareholding.

Since the big three banks are making fat profits and are well regarded by the financial markets, they have no problem finding the capital to finance purchases. Besides economies of scale, each takeover brings fresh opportunities for cross-selling a range of financial services to customers. Brazil's biggest banks are also its biggest insurers and investment managers. The president of Unibanco, Joaquim Castro, says his customers typically buy about six of the bank's products—roughly double the number at the best banks in continental Europe.

The strength of Brazil's banks contrasts sharply with the situation elsewhere in Latin America. In Argentina, where the currency has slumped, and government and many firms and people are bankrupt, the banks face possible ruin. Even Britain's HSBC, perhaps the strongest, has just set aside a hefty $1.1 billion to cover losses.

In Argentina and elsewhere in Latin America, foreigners have come to dominate banking. In Mexico, just three foreign banks—SCH and BBVA of Spain, and America's Citigroup—jointly have about two-thirds of the market. In Brazil, the foreign banks missed out on many of the best acquisitions and now have only a quarter of the local market. It will be hard for them to catch up, which explains why some have been leaving and others may follow. Of the six dominant retail banks, five are domestic (the big three private banks, plus two government ones, Banco do Brasil and Caixa Economica Federal). Only one, SCH, is foreign.

The consolidation is not over. Four more state banks are due to be sold this year, and the big local players look poised to gain further. The Argentine crisis has made foreign banks more reluctant to put capital into Latin America and, says Bradesco's Mr Trabuco, their absence from recent privatisations has

brought prices down: he snapped up Amazonas's bank for the minimum price of 183m reais ($76m). He and his domestic rivals lick their lips at the forthcoming privatisation of BESC, the state bank of the prosperous southern state of Santa Catarina, whose economy is already as big as Bolivia's and Paraguay's combined. With such prospects at home, Brazil's banks see little need to look to neighbouring countries for future acquisition of banks.

Brazil's heavy public debts mean the banks earn handsomely from their holdings of government bonds, but they are also rapidly expanding their loan books. Private-sector loans grew by about a quarter last year, after growing by two-thirds in 2000. There still seems scope for more: bank lending is equivalent to 52% of GDP in Brazil, compared with 161% in America and 75% in Chile.

Besides buying rival banks and opening lots of new branches of its own, Bradesco has done a deal in which its products will soon be distributed in over 5,000 post offices across the country, including in the *favelas* of Rio de Janeiro. Unibanco is seeking new, lower-income customers by offering credit through retailers of domestic appliances. Besides being a fast-growing market in itself, this allows Unibanco to approach those who keep up the payments on their refrigerator or cooker and offer them current accounts and credit cards. Mr Castro says this is a cheap way to acquire reliable new clients. Bad-debt rates are admittedly high in Brazil, but the banks more than make up for this by charging huge mark-ups: the overnight interbank rate is only 18.75%, while overdrafts, for example, cost 160% a year.

If Brazil's government ever lets slip its discipline over public finances, the banks might find themselves in the same pickle as in Argentina. For now the prospect seems unlikely. Eventually, banks' fat margins will be eroded by market saturation and competition, but that is still a few years off. In the meantime, the big beasts of Brazilian banking look invincible.

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Economic forecasts

Crystal balls

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Forget 2001. Better luck this time

THE secret of successful forecasting is to give a number or a date, but never both. The private-sector economists who provide *The Economist* each month with forecasts for the big economies (published on our indicator pages) are allowed no such luxury. Actual figures for GDP growth in 2001 are now available for all the big economies. How well did our panel do?

Embarrassingly: their forecasts missed by a mile. In December 2000 our panel had an average 2001 growth forecast for the United States of no less than 3.0%. Growth actually turned out to be just 1.2% (at least until the figures are revised again), well outside our panel's range of forecasts of 2% (HSBC) to 4.1% (ABN-Amro).

Our forecasters were also far too optimistic about the euro area: their average year-ahead prediction was 2.9% growth in 2001; growth turned out to be only 1.5%. Again, HSBC had the smallest forecasting error, with a guess of 2.5%. Still, HSBC's victory on America and Europe was undermined by their disastrous call on Japan. The bank tipped growth of 3.1%, well above the average forecast of 1.9%. Japan's GDP actually fell by 0.5%. Top marks this time go to Morgan Stanley's forecast of zero growth.

Judged by its forecasts for the three big economies, the overall winner with the smallest total error is Morgan Stanley. The bad news is that Morgan Stanley is again gloomier than the consensus for 2002. The good news is that experience suggests that this year's forecasting star is often next year's duffer.

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Italian banking

Pop goes Bipop

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An unbecoming Italian merger

MARRY one weakling with a basket case, and you might get something that can prosper. That appears to be the logic behind the merger of Banca di Roma, Italy's fourth-biggest bank, and Bipop-Carire, once a stockmarket darling. The governor of the Bank of Italy, Antonio Fazio, appears to have encouraged the deal mainly as a way to lend a helping hand to Banca di Roma, whose bad debts continue to ruin its profitability. Bipop-Carire's board of directors approved the deal this week.

The merger, valuing Bipop-Carire at about *euro*2.6 billion ($2.3 billion), is a sorry end for the bank, two years ago briefly Italy's biggest by market capitalisation. With Fineco, an online-trading venture, and its purchase of Entrium, a German online bank, it sold itself to investors as a new-economy play; the bank's shares rose six-fold in the 15 months to March 2000. With the dotcom bust, its shares crashed. Then, last autumn, the bank admitted it had given some of its best asset-management clients guaranteed investment returns—without covering its own risk.

Picking up the pieces, Banca di Roma gets Bipop-Carire's retail-banking network in the prosperous north of Italy, where its absence has hampered its performance compared with other banks. It also gains a network of financial advisors. What Bipop-Carire will not solve, however, is Banca di Roma's bad-loan problem. Vasco Moreno of Fox-Pitt, Kelton, a stockbroker, says that fully 22%, or *euro*16 billion, of the bank's gross lending fell into the category of non-performing or problem loans at the end of 2000. Of these, he says, three-fifths had no provisions, equivalent to more than the bank's total shareholders' equity of *euro*5.7 billion.

For Mr Fazio, the deal with Banca di Roma resolves another problem. Banca Popolare di Milano, a large regional bank, is down *euro*500m on a loan it made to an investor to buy Bipop-Carire's shares, which then lost most of their value. Banca di Roma has agreed to give Banca Popolare di Milano its money back in return for the 10% stake in Bipop-Carire that it repossessed from its borrower.

Some Bipop-Carire shareholders and opposition politicians grumble at the heavy hand of the Bank of Italy in all of this. Banca di Roma is clearly the only bank favoured as a bidder. Bipop-Carire's shareholders think, perhaps unrealistically, that they might have got a better price for the bank's asset-management franchise from someone else: Monte dei Paschi di Siena, UniCredito Italiano and Citigroup are among those reported to have made approaches. The close relationship that the merger underscores between the Bank of Italy and Banca di Roma is unbecoming.

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Investment management in Britain

Rainy days

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Who would run a pension fund?

THE good times are over for Britain's pension-fund managers, when companies gaily invested their pension provisions in equities and rarely questioned their fund manager's performance. In a sign of more demanding times, the pensions industry is about to adopt a new code, under which pension-fund trustees will get a detailed report every six months on fund managers' investment procedures, as well as a meticulous break-down of the costs of managing a pension-fund account. The National Association of Pension Funds endorsed the draft code at its annual gathering in Edinburgh this week.

The proposed scheme is the industry's response to a review of institutional fund management produced a year ago by Paul Myners, a former head of Gartmore, a big British fund manager. Mr Myners called for more transparency and more accountability. He proposed an end to “soft” commissions—inducements by securities firms for more share-trading business—and an all-inclusive fund-management fee.

A year later the industry is bowing to demands for more openness. But fund managers are not prepared to give up soft commissions or to accept an all-in fee. They are also uncomfortable with Mr Myners's campaign to oblige fund managers to be active shareholders. Money-men fear that if, for instance, they do not intervene in underperforming companies, they will risk lawsuits for fiduciary negligence. As it is, fund managers have been unsettled by Unilever's suit for negligence against Merrill Lynch Investment Managers last year.

The new regime is a step in the right direction, but will do nothing to alleviate the twin pressures on fund managers' profitability: rising costs and falling revenues. An annual survey by PricewaterhouseCoopers found that fund managers' revenues fell by 5.5% last year, thanks largely to weak stockmarkets. Fund-management fees are earned in proportion to the value of assets under management.

Moreover, more companies are switching pension money out of equities and into bonds, where fund managers are traditionally weak and the fees anyway lower. Expectations of poor equity returns in future partly explain the switch. But the trend is reinforced by the introduction of a new accounting regulation, FRS 17, that requires short-term pension-fund shortfalls to appear in companies' accounts. Shortfalls are more likely to happen with equity investments than with bonds.

One example of the strains in British fund management is the loss that Schroders, an investment group, has just reported—the first in its nearly 200-year history. Last year institutional investors withdrew £6 billion ($8.7 billion) of assets under management, miffed by the firm's poor performance. Those who left their money with the firm saw assets shrink by £13 billion, or roughly one-tenth, thanks to falling equities.

Schroders may be in worse shape than its peers, such as Gartmore, Phillips & Drew and Merrill Lynch Investment Managers. Yet all of them find it ever harder to get away with lacklustre performance. In the past few years, actively managed funds have outperformed passive indexed funds—but not by much. Pensions trustees now question the higher fees charged for active fund management.

In an attempt to revive fortunes, some established fund managers are expanding into alternative investments, such as hedge funds and private equity, where fees are more rewarding than for conventional money management. Michael Dobson, Schroders's new chief executive, intends to raise the firm's investment in alternative investments from 4% to 10% or more of assets under management.

Most pension-fund assets are still managed in traditional ways. But unless performance improves, pension-fund trustees are likely to plump much more for index-tracking, where fees are low, or for

alternative investments, where risks and, if all goes well, rewards are higher.

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Economics focus

A worldly philosopher

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James Tobin, Nobel laureate, died on March 11th, aged 84. His wealth of economic ideas will outlive recent attempts to hijack his namesake tax

EPA

ANTI-GLOBALISATION mobs running riot in Seattle, Genoa and Prague thought they had found a patron saint in James Tobin. How wrong they were. Undoubtedly, the Yale professor had conceived his now-famous Tobin tax, a small levy on foreign-currency trades, in 1971 with the aim of shielding poor countries from the whims of financial markets. Though flawed in practice, the tax's ultimate goal was clear: to help bring the benefits of free trade to the world's poor. To his great dismay, radical groups some time later tried to turn his tax against his own free-trade ideals.

Unlike those anti-globalisers who romanticise poverty from afar, Mr Tobin had seen it first-hand. Coming of age in the American mid-west during the great depression, a period when rich countries shut their borders to trade, Mr Tobin said he embraced economics to “better the lot of mankind”. In that spirit, while an undergraduate at Harvard in 1936, he discovered the work of John Maynard Keynes.

After a wartime stint on the American destroyer *USS Kearny*, Mr Tobin spent his early academic career developing and promoting Keynes's revolutionary theories. He brought them nearer to the real world, eventually winning a Nobel prize for his efforts.

Keynes expressed his ideas in a literary style that left a lot to the imagination. One crucial question which Mr Tobin refined was how to calculate the demand for holding cash—essential for determining the overall level of demand in an economy. Keynes's approach had been to draw a vague distinction between money and some notion of “capital”. Mr Tobin saw that, in the real world, a whole range of financial assets could sometimes serve both purposes.

This led him to create a theory of portfolio choice, ie, of the ways that people and firms allocate their wealth among a variety of assets, from property to shares and debt. His work, with that of Harry Markowitz, a fellow laureate, paved the way for nearly all modern theories of investment and corporate finance, and linked financial markets to the world of goods and services. People who now put their retirement savings into a diversified portfolio of shares are paying silent tribute. “Don't put all your eggs in one basket,” was his homespun version.

He was of a generation of economists who felt that government intervention, through monetary or fiscal policy, could smooth out business cycles, helping to prevent the misery of unemployment. Yet, despite Mr Tobin's faith in government's benevolent power, he championed the role of incentives in economic policy. In the 1960s, before the flaws became apparent in America's “great society” welfare programmes, Mr Tobin knew that government grants provided a disincentive for seeking work. Along with Milton Friedman, in one of their rare moments of agreement, Mr Tobin came out for a negative income tax, a forerunner of many of today's tax policies.

Perhaps it was Mr Tobin's experiences in the 1930s and 1940s that made him a foe of the “rational expectations” revolution of the 1970s. This school of thought argued that, given perfectly competitive markets, people would adapt their behaviour to a tax cut or to deficit spending, rendering it impotent. Given this, the best thing government could do was nothing at all. While acknowledging the logic of the theory, Mr Tobin thought this “policy irrelevance” proposition silly in practice: simply, people are not as rational as economists suppose.

Renaissance man

More than two centuries ago, Adam Smith explained the benefits of the division of labour. It is more efficient for each worker to focus on one task than for each to perform every task himself. Economists have taken his message rather too literally to heart over the past three decades, delving into narrow specialities, abstract theories and exotic mathematics. The rise of ever more powerful computers has only whetted their appetite for complicated models at the expense of formulating and testing policy.

Mr Tobin remained firmly of the old school. According to a former colleague, Robert Solow, Mr Tobin “was never interested in a problem for its own sake”. Remaining true to his interests, the vast scope of his writing, ranging from sociology to macroeconomics and banking and finance, puts most contemporary economists to shame.

Today's environmentalists, for example, are in debt to Mr Tobin. Working with a colleague at Yale, William Nordhaus, he was among the first to adjust GDP figures to reflect the true costs of environmental degradation as well as of traffic congestion and crime. He also dared to question conventional wisdom on economic equality, crafting a theory of “specific egalitarianism”: why, for example, should governments worry so much about equalising incomes, when in America health care and higher education are left to the markets?

Mr Tobin was as deft with maths as he was with policy. He developed a statistical technique for analysing spending decisions—the Tobit regression, named after a character based on him in the “The Caine Mutiny”, a novel written by his old Navy buddy, Herman Wouk. And despite the lack of computing power in his day, his research stands the test of time; a conference in England's Cambridge tried to pick holes in his early work with the fanciest tools, yet Mr Tobin came up trumps.

Tobin's Q, a measure of the relative value of equities that compares stockmarket values with the replacement cost of net assets, is probably his most enduring monument. It now shows that shares are greatly overvalued. On the question of whether people are rational, Mr Tobin has made his case.

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Stem cells

Masters of disguise

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A clutch of new papers on stem-cell research has raised some awkward questions

Get article background

UNLIKE most of the body's cells, which are stuck in the same job with little chance of promotion or reproduction until they die, stem cells lead versatile existences. Not only are they able to produce a variety of daughter cells, such as those in bone or skin, but they also manage to cheat old age by continually replicating themselves. This potential has sparked the interest of desperate patients and nimble entrepreneurs, who are keen to find new treatments for diabetes, Parkinson's disease and other degenerative conditions.

But just how versatile stem cells are is a matter of debate, in legislatures as well as laboratories, as politicians try to regulate this new technology. Research papers appearing in the March issue of *Nature Medicine* and this week's *Nature* appear to complicate an already tricky issue by calling some of this versatility into question.

Fusion confusion

Stem cells, and their supporters, fall into two camps. Embryonic stem (ES) cells appear soon after conception and are the ultimate source of the hundreds of different tissues that form the body. This “pluripotentiality” makes them a promising source of replacement cells for people with degenerative diseases. But besides a number of technical problems that must be resolved before they, or their test-tube-derived daughters, can be transplanted into patients, there is an ethical obstacle to overcome. Those opposed to abortion have fought long and hard against the use of ES cells which, they feel, violates the integrity of the embryo and reduces it to a collection of spare parts. Such opposition has already made its mark on American policy; last year, George Bush restricted federal funding of ES-cell research to those working with roughly 70 officially recognised cell lines.

In any case, opponents of embryo research reject the need for such work by pointing to the other sort of stem cell, found in adult tissue, as an equally fruitful prospect. Almost all tissues contain a few stem cells. These are on hand to provide replacements for worn-out cells in the tissue in question. Although collecting such adult stem cells is free from the sort of ethical issues that burden ES-cell research, these cells have other problems.

Among them is the long-standing belief that they are more limited than ES cells in the range of daughters they can produce, and in their capacity to self-renew. That raises the question of how to get the right adult stem cells in sufficient quantities to produce an effective treatment for a disease. Advocates of this source of stem cells have therefore been heartened by sporadic reports that adult stem cells harvested from, say, the brain (so-called neural stem cells), are more “plastic” than previously imagined. When transplanted into experimental animals, not only do they give rise to new nerve cells, but they can also be traced to unexpected organs, such as blood or muscle, seemingly transformed into remotely related cell types.

Such findings are controversial, however, and Derek van der Kooy and his colleagues at the University of Toronto are among those with doubts about this quick-change act. As they show in *Nature Medicine*, they have failed to replicate one of the key experiments in “transdifferentiation”, as such transformation is

technically called.

In the field of stem-cell research, fetuses (as opposed to embryos) count as adults. Unlike embryos, their tissues are fully differentiated. That they have not actually been born does not matter from this point of view. The group therefore isolated “adult” neural stem cells from fetal mice (where they are easier to find), injected them into adult mice (which are easier to study), and then looked for daughter blood cells from the donor. The researchers were unable to find any sign that the neural stem cells produced red blood cells in the recipients, and therefore concluded that transdifferentiation is an exceedingly rare event.

How, then, is it possible to account for the flurry of papers over the past few years that appears to show transplanted adult stem cells contributing to all sorts of different tissues? Austin Smith at the University of Edinburgh, and Naohiro Terada at the University of Florida in Gainesville, have one suggestion, which they propose in separate papers in *Nature*. Both Dr Smith's group, working with neural stem cells from mouse fetuses, and Dr Terada's team, using bone marrow cells from adult mice, grew their harvest alongside embryonic stem cells in the laboratory. They found that, in addition to being pluripotent, their adult stem cells had roughly twice the genetic complement of normal cells. They had, in essence, fused with their embryonic test-tube mates.

This might sound like a small technical detail, but it has serious implications for researchers in the field, according to John Gearhart, a stem-cell expert at Johns Hopkins University. The “gold standard” for testing whether stem cells are truly pluripotent is to transplant them into an embryo and watch them give rise to different tissues by tracing their genes as the animal develops. But if these cells fuse with stem cells already in the recipient, then the presence of donor genes in various organs is not due to some remarkable transformation of the transplanted stem cells, but rather because they handed over their genetic cargo to the embryonic cells, which then did all the work. Stem-cell researchers do not usually look for signs of fusion in their experiments. These new findings suggest they should.

So polarised is the stem-cell debate in America that the two camps quickly seize on any evidence that one sort of stem cell is better than the other to further their cause. But jumping either way just yet would be hasty, according to Catherine Verfaillie of the University of Minnesota. To begin with, neither of the *Nature* papers shows that adult stem cells can fuse with other adult cells, so it is rash to dismiss earlier transdifferentiation experiments which observed the phenomenon in adult, rather than embryonic, recipients. Worries that such fusion might occur during human stem-cell therapy are therefore premature. In any case, fusion may not be such a bad thing, according to Helen Blau of Stanford University. The body has plenty of liver and other cell types that naturally have more than the “normal” amount of genetic material and yet cause no harm. There is no reason to assume that stem-cell fusions would be different. The important thing is to understand how such cells work, in order to exploit them better.

While those outside the laboratory rush to choose sides, most researchers are keen to see both embryonic and adult stem cells pursued. As Art Caplan, a bioethicist at the University of Pennsylvania in Philadelphia, points out, placing bets on embryonic over adult stem cells, or vice versa, is like standing in the 18th century and trying to predict the future of aviation from watching a balloon and a kite. It is far too early in stem-cell technology to say which approach will ultimately fly.

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Conserving forests

Pulp friction

Mar 14th 2002
From The Economist print edition

What is the best way to save forests?

Get article background

“USE it or lose it” is an idea that is gradually penetrating the conservation movement. Its latest incarnation is a report snappily entitled “Making markets work for forest communities”, which was launched in London on March 7th. Put out by Forest Trends, an American non-governmental organisation, and the Centre for International Forestry Research, a research group based in Indonesia, this report tackles the perception—widespread among drawing-room conservationists—that forests are wild areas devoid of people.

In fact, hundreds of millions of people, most of them poor, live in or near forests. Many more rely on forest products such as charcoal for survival. The notion of saving forests by putting them under lock and key would thus be hard to pull off. The best way to conserve forest is to give locals an interest in doing so, by granting them meaningful property rights over the habitat. That encourages cropping for a regular income, rather than a general scramble designed to carry off as much timber as possible, before someone else does so.

The report suggests that things are moving in the right direction. Over the past 15 years the amount of forest land that is in the hands of local communities or households (as opposed to national governments) has increased by 50%. In Latin America alone that has meant the transfer of some 10m km^2 (4m square miles), an area that is roughly the size of Bolivia.

Besides such broad-brush figures, the report mentions specific cases. Since 1997, for example, indigenous folk in Oaxaca, Mexico, have been encouraged by the Mexican government and the World Bank to establish community forest enterprises. The government and the bank have helped local people to establish protected areas, organise businesses, and market wood and other products.

Since the scheme began, according to the report, the area under forest management has increased from 5,000km^2 to 6,500km^2. Meanwhile, Oaxaca has benefited from 1,300 new jobs, and extra timber revenues of some $10m a year. The report also cites the example of Bolivia, which has embraced sweeping forestry reforms that not only give formal recognition to indigenous peoples' rights to forests, but also exempt small-scale producers from onerous regulations and concession fees.

Rich countries can benefit, too. A well-known example comes from New York, which was recently confronted with new federal water standards. Officials calculated that they would have to invest some $5 billion to upgrade the city's water infrastructure to comply. Instead, they met the standards by spending about $1 billion preserving forest and agricultural systems in the Catskills, the source of the city's water. These act as natural filters. Observing New York's success, officials in Ecuador are developing a similar scheme for Quito.

Not everyone is convinced, of course. John Palmer, a British government forestry official and self-styled “professional sceptic”, observed at the garden party held to launch the report that it put a spotlight on successes but largely ignored the failures. Perhaps. But its lessons should reinforce those successes and reduce the failures.

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Cheat-detection software

Plagiarise. Let no one else's work evade your eyes

Mar 14th 2002
From The Economist print edition

A window of opportunity for intellectual cheats is closing fast

EVER since Al Gore invented it, the Internet has been a paradise for those with a creative attitude to facts. Students, for example, commission and sell essays with such ease there that online “paper mills” devoted to this trade are one of the few dotcom business models still thriving. With a few clicks of a mouse, a student can outsource any academic chore to “research” sites such as Gradesaver.com or the Evil House of Cheat.

One market opportunity, however, frequently creates another. The past few months have seen a rapid rise in interest in software designed to catch the cheats. The subscriber base of Turnitin, a leading anti-plagiarism software house based in Oakland, California, has risen by 25% since the beginning of the year. Around 150,000 students in America alone are under its beady electronic eye. And in Britain, the Joint Information Systems Committee, the unit responsible for advising the country's universities on information technology, has tested the firm's software in five colleges. If all goes well, every university lecturer in the country will soon be able to vet his students' submissions with it.

Turnitin's software chops each paper submitted for scrutiny into small pieces of text. The resulting “digital fingerprint” is compared, using statistical techniques originally designed to analyse brain waves (John Barrie, the firm's founder, was previously a biophysicist), to more than a billion documents that have been fingerprinted in a similar fashion. These include the contents of online paper mills, the classics of literature and the firm's own archive of all submitted term papers, as well as a snapshot of the current contents of the World Wide Web.

Whenever a matching pattern is found, the software makes a note. After highlighting instances of replication, or obvious paraphrasing (according to Turnitin, some 30% of submitted papers are “less than original”), the computer running the software returns the annotated document to the teacher who originally submitted it—leaving him with the final decision on what is and is not permissible.

Which teachers and institutions will choose to employ such software? Past research has shown that, perhaps surprisingly, academic dishonesty correlates with high academic achievement. Nor is public exposure of widespread cheating likely to burnish a university's reputation. Universities with the highest-achieving students and the most unsullied reputations may therefore have the most to lose from anti-plagiarism software. Indeed, a curious pattern has emerged among Turnitin's clients: good universities, such as Duke, Rutgers and Cornell, employ it. Those that like to think of themselves as top-notch, such as Princeton, Yale and Stanford, do not. According to Dr Barrie, “You apply our technology at Harvard and it would be like a nuclear bomb going off.”

Explosions are happening lower down the academic ladder, as well. In January Christine Pelton, a biology teacher in Kansas, was forced out of her job for using Turnitin's software. Just before Christmas she had run 118 essays though the mill, and found that 28 had been plagiarised. Naturally, she failed the cheats. But rather than thank her, the parents of some of those cheats reacted with indignation. They forced the local school board to order her to pass the offenders, and she resigned in protest. Clearly, shooting the messenger has not yet gone out of fashion.

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Automatic newswriting

Mechanical prose

Mar 14th 2002
From The Economist print edition

Journalists may become redundant. But not just yet

WHILE some boffins are busy catching plagiarists (see article), others are inventing software designed expressly to rip off words and ideas. At Columbia University, a group of computer scientists with a flair for linguistics has opened a website that writes news.

Newsblaster, as the site is known, uses language-processing software that is fed news stories written by wire services, newspapers and magazines. The software first classifies the stories into six categories: United States, World, Finance, Entertainment, Science and Sports. Then it groups together stories on a single theme, say Enron's financial travails. That done, it summarises each cluster by looking for repeated phrases and structures. The result is an abstract a few lines long.

Kathleen McKeown, the group's leader, released Newsblaster a few days after September 11th, in the hope that it would provide a way to cope with the mass of news reports of that day's events. Although not perfect, Newsblaster seems adept at summarising politics and finance:

> After months of fruitless partisan bickering, the House on Thursday overwhelmingly approved a stripped-down bill to bolster the economy by providing new unemployment benefits and modest business tax breaks, including one eagerly sought by the high-technology industry.

Sometimes, though, the software trips up in its choice of inputs. A summary of reports of a Chicago snowstorm quoted perhaps too liberally from a source article that was itself a wrap-up of the news:

> The storm had given the Marquette area 17.6 inches of snow by Sunday afternoon. Israeli troops shot dead three Palestinians during a raid in the Gaza Strip and stormed into a West Bank. A late-winter storm cruising through the Midwest on Saturday snarled airport traffic.

The science module also seems to require some improvement. Here is part of Newsblaster's take on recent reports of an error made by astronomers:

> I would welcome suggestions. ‘‘Whoops! They averaged the colour values for all the light and converted it to the primary colour scale seen by the human eye. Glazebrook said the underlying data was correct. We did not expect it to get so big.” Red-faced astronomers said Thursday they were mistaken when they reported that the universe is light green.

Quite so.

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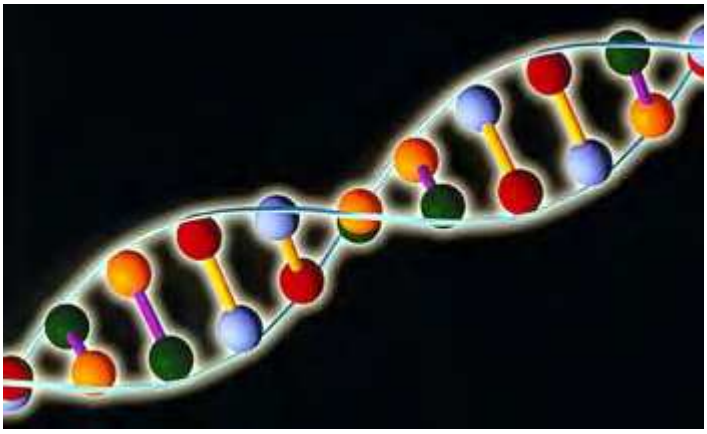
Controlling human biotechnology

Should we lock the door on cell science?

Mar 14th 2002
From The Economist print edition



The writer who brought us the end of history looks at our biotechnical future, and dislikes what he sees

IN THE course of an impassioned debate in the House of Representatives last summer on a bill to criminalise human cloning in the United States, Ted Strickland of Ohio, a former prison psychologist, took the floor to suggest that the best available science should decide the issue without interference from politics or philosophy. Human genetics is a giddy-making topic, and the desire for lock-down answers like this is understandable. But matters are not so simple. Shut the lab door, and politics comes back through the window. Vacuum out the philosophy at night, and there it is again in the morning.

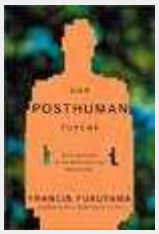
The very idea of engineering our genes tugs us violently in opposite directions. It promises release from inherited afflictions and raises the spectre of manmade monsters. It represents a triumph of human curiosity and technical daring, but tempts us also towards arrogance and folly.

Present-day biomedical techniques—*in vitro* fertilisation and therapeutic cloning, for example—are already putting moral intuitions to the test. Before long, it is feared, direct modification of genes could start to loosen our grip on what it is to be human. Need a person have two biological parents? Should a cross-bred ape-man have civil rights? We have no ready answers. Faced by such puzzles, it can seem that we are creating a science that will one day exhaust our capacity to tell right from wrong.

Many of these fears can be answered. But they are not self-evidently foolish, and they cannot be convincingly silenced by blanket appeal to scientific expertise.

Biotechnology concerns us all. To keep up, non-experts need enough of the science to be able to put the (overblown?) moral fears and the (exaggerated?) medical hopes into perspective. To follow the regulatory arguments as to what should be legally sanctioned, and how, they will want an idea of the money and the interests involved. These are not always obvious. Many ethicists, as they are called, are paid consultants to the growing biomedical industry, and not a few scientists in this area are religious believers with a doctrinal agenda. Finally, readers will want enough clarification from philosophers to help them keep an eye on how the scientists and the public-policy types shuffle terms like “human”, “person”

Our Posthuman Future: Consequences of the Biotechnology Revolution
By Francis Fukuyama



Farrar, Straus and Giroux; 272 pages; $25.
Profile Books; £17.99

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and “nature”.

What the interested general reader needs, in brief, is not an expert in any one of those three fields but a thoughtful, scholarly outsider who reads widely and carefully enough to triangulate the issues. Such a writer is Francis Fukuyama.

Mr Fukuyama made his name in 1989 with a brilliant and controversial short book called “The End of History and the Last Man”. His argument was that, with the end of the cold war, the dispute that had raged since industrialisation and the French Revolution over the best form of political economy was finished: democratic capitalism had won. With saintly patience, Mr Fukuyama put up with wilful misunderstandings of what he had meant, and soon turned to other large subjects. In his latest work, “Our Posthuman Future”—the title winks knowingly at that of his first book—he addresses the looming threat, as he sees it, that biomedicine and genetic science pose to humanity.

Messing with human nature

Mr Fukuyama divides his topic into three. In the first part, “Pathways to the Future”, he lays out why we should worry. Three techniques, actual or possible, preoccupy him: selective screening of newly fertilised eggs for birth defects, germ-line engineering (which passes genetic corrections into the next generation) and the making of animal-human chimaeras. The first is already practised; the others could be, he thinks, unless we stop them. Ahead of us, he sees embryo research slipping inexorably from strictly curative purposes into selective breeding for intelligence, sex and personality—designer babies and worse.

Though he shares fears with religious believers, Mr Fukuyama's book is not a tract and his case is made without recourse to the supernatural. He recognises that eugenics got a fearful name in the 20th century when it was misused by the powerful—governments and private institutions alike—against the weak and defenceless. But he thinks it would make no moral difference if, as modern liberals urge, eugenic practices were now permitted so long as those involved did it from free choice and with their eyes open. Nor in his view do utilitarian calculations of costs and risks come into it. Suppose, however improbably, that we could be sure that human reproductive cloning—artificially breeding a baby with only one person's genes—would never lead to hideous, irrecoverable mistakes. Would that make it right? Not to Mr Fukuyama.

Genetic science holds for him intrinsic dangers: it takes interference with human nature too far. Instead of accepting our natural endowments and bettering ourselves through education and work, we are seduced by the prospect of improving ourselves and our descendants by an artificial short-cut: biotechnology threatens to blur the line between medicine that treats illness and medicine that serves vanity and self-enhancement.

This first part contains chapters also on the medical prolongation of life and the prescription of drugs such as Prozac and Ritalin to control mood and behaviour. They seem at first to belong in another book. But Mr Fukuyama includes them as further examples of modern medicine's misguided collusion, as he sees it, with our nature-defeating search for perfectibility.

If you are more confident than Mr Fukuyama about our ability to draw a line between the permissible and the impermissible—between gene therapy, say, and eugenics proper—then you will probably be struck by the slippery-slope character of his argument, not to mention its strong flavour of puritanism. But we are only at page 102, and Mr Fukuyama defends his appeal to human nature in the book's second section, “Being Human”.

Like the rest of us, Mr Fukuyama wants firm ground on which to find moral agreement. But where he chooses is probably a mistake. Human nature is marshy terrain. The idea is notoriously open to definition. Mr Fukuyama treats it as the basis for morality and rights. At the same time, he defines it as typical behaviour due to our genes. This causes all kinds of trouble. Interfering with our nature is wrong, he tells us. But humans, typically, behave badly. Ought it not then be our duty to try to alter genes so as to behave better?

There is, in any event, a practical objection. On divisive topics of this kind, where powerful interests, lots of money and large principles are engaged, you want to try and keep as many people at the table arguing as you can. Lock-down solutions, whether they involve authoritarian appeals to science or contentious uses of second-order philosophy, drive too many people from the debate. The fact is, you

can get a lot of objectivity out of ethics without looking for it in human nature.

As if acknowledging a misjudgment in putting such weight on one disputed notion, Mr Fukuyama enlarges his objections at the end of this section to include the threat biogenetics poses to a looser and less obviously controversial moral catch-all, human dignity.

His final section, “What To Do”, may be more immediately provocative. He surveys current regulation of human biotechnology and finds it too weak. We need to set up or strengthen special watchdogs, he thinks, nationally and internationally, though not through the WTO, a trade body ill-fitted for bioethical decisions and already mired in disputes over GM crops.

Characteristically, Mr Fukuyama himself points us to objections. Is current regulation so feeble? Responsible self-regulation as scientists first developed new cell technologies in the 1970s does not suggest that we are at the mercy of reckless modern Frankensteins. Britain, France, Germany, India and Japan are among 24 countries that have already banned human reproductive cloning. The Weldon-Stupak bill outlawing human cloning of all kinds in America passed the House and is before the Senate. Perhaps it is liberals, not restrictionists, who should should worry.

These may sound like decisive criticisms of “Our Posthuman Future”. But it would be silly to think that Mr Fukuyama has failed just because he has got himself muddy. Few who enter these lists come out spotless. Not only does he cover the topic comprehensively. He shows us why it matters. For readers new to a complex subject, this book will be an invaluable guide, even if they do not go away agreeing with all, or any, of Mr Fukuyama's conclusions. Those who already know the area well may still want to remind themselves how its different bits fit together. For all its flaws, this is an important book. Mr Fukuyama has the rare knack of putting forward strong positions undogmatically, without for a minute suggesting that they are the end of the argument.

Our Posthuman Future: Consequences of the Biotechnology Revolution.
By Francis Fukuyama.
Farrar, Straus and Giroux; 272 pages; $25.
Profile Books; £17.99

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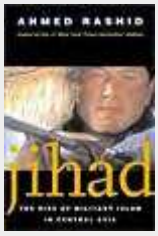
Militant Islam

Stabler Stans

Mar 14th 2002
From The Economist print edition

NO JOURNALIST or academic, and probably very few spooks, know Central Asia better than Ahmed Rashid, the Pakistani writer whose earlier book, “Taliban”, became an instant bestseller after September 11th. Now he has followed it up with a valuable survey of the spread of Islamic militancy beyond Afghanistan into the five former Soviet republics of Central Asia. The book deserves to be widely read, this time before catastrophe strikes rather than afterwards.

Jihad: The Rise of Militant Islam in Central Asia
By Ahmed Rashid



Yale University Press; 272 pages; $24 and £16.95

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The republics of Kazakhstan, Kirgizstan, Turkmenistan, Tajikistan and Uzbekistan are well off the beaten track, even for most policymakers. But here, since the fall of the Soviet Union, radical Islam has taken root over the last decade with extraordinary vigour. The rise to power of the Taliban in Afghanistan acted as an accelerator, helping to turn what began as an avowedly non-violent protest movement into something much more dangerous. It was in Kabul that the creation of the most militant group, the Islamic Movement of Uzbekistan (IMU), was announced. The IMU aims at the violent overthrow of the government of Uzbekistan, the most populous and powerful of the republics, and has launched repeated incursions into the territory of Uzbekistan and Kirgizstan from bases in Afghanistan and Tajikistan.

EPA

By the book

Unfortunately but inevitably, given the pace at which history is unfolding in the expanses of Central Asia, Mr Rashid's book is already somewhat out of date. Publication deadlines meant that he was unable to take account of the overthrow of the Taliban and with it the heavy losses inflicted on the IMU, including the reported, though unconfirmed, death of its leader, Juma Namangani. That is a pity, since the entire dynamics of the region have now changed. The IMU has suffered blows from which it will find it very hard to recover, while the various “Stans”—Uzbekistan in particular—find themselves in the happy position of receiving support from America, Russia and China, all of whom now see them as being at the frontline in the battle to contain fundamentalism. The chances of any of the regimes being overthrown have receded. They were never, in fact, terribly great, since the IMU probably never amounted to more than a couple of thousand fighters.

Still, as Mr Rashid explains very fully, there were powerful reasons why Islam could flourish as it has done, and they have not changed. Islamism in Central Asia has been first and foremost a response to repression and extreme poverty, and there is no sign that any of the five regimes are becoming any less repressive or significantly less poor. Rather the reverse: there is no longer any outside pressure on the autocrats to mend their ways. Tens of thousands of members of the Hizb-ut Tahrir, which, unlike the IMU, advocates only peaceful means for the creation of an Islamic caliphate in Central Asia, languish in prison, while corruption and mismanagement are ever-increasing. A future explosion, whether religious or political, cannot be discounted. But at least the Taliban are no longer there to prime it.

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Yale University Press; 272 pages; $24 and £16.95

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Mexican cinema

Life cuts

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From The Economist print edition

Three outstanding films herald a heady renaissance in Mexican cinema

Reuters

Fraternity in a grain of sand

THE golden age of Mexican cinema, through the 1940s and 1950s, established an aesthetic that was as varied as it was distinctly Mexican. Emilio “El Indio” Fernandez, Alejandro Galindo and Gabriel Figueroa are some of the great names of the era. Three new movies from Mexico, “De La Calle” (Streeters), “Amores Perros” (Love's a Bitch) and “Y Tu Mama Tambien” (And Your Mama Too), draw on this heritage and redefine it. Part of Mexico's recent cinematic renaissance, these films embrace experimentation without leaving viewers behind. All three are humanist in outlook and use contemporary Mexico as both a psychological and a physical backdrop for their stories.

In “De La Calle” Gerardo Tort tells the story of two teenagers living on the streets of Mexico city. Using a film-developing process known as silver-retain, which heightens the contrast between light and dark, he creates a world in which the lines between objects are blurred. Daylight is harsh and bleached, so that the brightness of a butcher's apron stands out against the viscera on his chopping block, while the butcher himself blends into the white-tiled wall. Stealing a ride on a ferris wheel, the two kids talk of escaping from the streets, their forms silhouetted against the electric blue of a pre-dawn sky. This is a kind of realism, albeit one that has more to do with the way Mr Tort captures the essence of a moment or an experience than with his presentation of the visible world. But as such it is an effective way to evoke the harshness of the streets.

“Amores Perros”, directed by Alejandro Gonzalez Iñarritu, shares the richly textured feel of “De La Calle”. Handheld cameras and Steadicams bring us into its characters' worlds. In one tense scene the camera pans quickly back and forth between two people, without cuts, focusing on their faces, effectively turning the viewer into a participant.

Mr Iñarritu follows the paths of three people whose lives are linked by a car crash. Though the film is divided into separate sections, the stories are interwoven both in the direction, with a character from one story walking through another's scene, and in the editing, in montage cuts that juxtapose different narrative threads. This serves not to confuse but rather to bind the film together. The dazzling stylistic success of “Amores Perros” is reflected in the many prizes it has won, including 11 Ariel Awards (Mexico's Oscars), a Golden Globe and the Critics' Grand Prize at Cannes.

“Y Tu Mama Tambien” is a wonderful reworking of the road-movie genre. Two teenagers, Tenoch and Julio, spurred on by Tenoch's cousin, Luisa, abandon Mexico city and head for the beach. Luisa, in her late 20s and the object of their desire, joins them after learning that her husband has been having an affair. Alfonso Cuaron's directorial approach is subtle and naturalistic; he too uses light, go-anywhere equipment to personalise the film. At times the sound is cut while the action continues in silence; we wait several beats before a narrator reveals details that the characters themselves are trying to hide: a secret, a state of mind, a memory.

Mr Cuaron's camera is restless, moving fluidly from one perspective to another. At times we see the countryside from inside the car, the camera swinging round on a funeral procession or a police roadblock. Elsewhere we follow one of the three travellers, wandering off at a rest stop to look at a stall or talk to a local; or we enter the world behind the camera, following a woman into a restaurant kitchen, a maid taking food to limousine drivers. At other times the camera is part of the landscape; we are bystanders in

it watching the car drive by. The road-trip format slices through a broad cross-section of contemporary Mexican issues—gender, colonialism, class. It also gives the film its energy and poignancy.

Last year “Y Tu Mama Tambien” was Mexico's highest-grossing home-grown production. It opens in New York and Los Angeles on March 15th, and across the United States on April 5th. “¡Accion! Mexican Cinema Now”, a festival celebrating the diversity and complexity of recent Mexican cinema, is now on at the Guggenheim Museum in New York. “De La Calle” screens on the 15th, and the festival concludes on the 23rd with Mexico's entry for this year's Oscars, “Perfume de Violetas” (Violet Perfume).

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Jazz lives

Not just jivin' around

Mar 14th 2002
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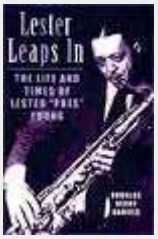
THE bandleader Count Basie was once asked to describe his most famous sideman, the tenor saxophonist Lester Young. “He was strange,” Basie replied, “and strangely nice.” In the years since his death in 1959, Young has become a kind of jazz saint, and he assumed legendary status even in his lifetime, both for his revolutionary playing and his idiosyncratic character. Universally known as Pres—short for “president of the tenor”—his trademarks were a flat-brimmed pork-pie hat, an eccentric personal argot (which, among other things, involved addressing people of both sexes as Lady), and a feline air of detachment which seemed the quintessence of cool.

Lester Leaps In: The Life and Times of Lester “Pres” Young
By Douglas Henry Daniels



Beacon Press; 524 pages; $30 and £25

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Biographies of Young have appeared before, but “Lester Leaps In” is distinguished by its emphasis on the saxophonist's cultural context. A professor of history and black culture, Douglas Daniels is keen to show him as a representative figure, a product of African-American experience, and to an extent the approach is fruitful. Because of his association with the Basie band, which came from Kansas City, Young has usually been regarded as a Kansan too. But Mr Daniels reveals his true roots: born in Mississippi and bred in New Orleans, he was surrounded by a rich musical amalgam and by the family values of hard work and honesty. Like any southern black, he also developed a wary sensitivity to racism. His subsequent tenure with the Blue Devils, a co-operative touring band, inculcated a sense of community and brotherhood, a democratic view of music-making shared by the Basie band.

However, Mr Daniels's viewpoint has its limitations. Gaps in documentation at key points mean he must fall back on speculation regarding Young's actual movements, and his commitment to a cultural perspective means that Young's musical achievements receive short and sometimes questionable shrift. Indeed, Mr Daniels is suspicious of music critics, particularly those with a “Eurocentric” ignorance of African-American traditions. But he acknowledges that Young expressed a profound regard for a number of white jazz musicians.

In accord with recent critical opinion, Mr Daniels rejects the view that Young's playing declined sharply after the war, following harsh treatment during his army training. He stresses the saxophonist's ever-increasing popularity with audiences, indeed the near reverence of African-Americans which made him “the prototype of the proud black urbanite”. To Mr Daniels, the failure of critics at the time to appreciate not just Young's art but its cultural importance amounted to “a kind of character assassination” symptomatic of deep-rooted American racism.

Unfortunately, such grand general pronouncements tend to obscure the talent and personality of a rare and supremely gifted individual. Though Mr Daniels quotes bits of Young's “distinctive slang”, he could usefully have cited many more examples of the saxophonist's highly original intelligence and wit. For instance, after the war he was a regular member of the hugely successful, constantly touring concert package known as “Jazz at the Philharmonic”. Though it ensured public stardom, Young referred to it as “a flying plantation”. This typically acute *bon mot* illuminates the special quality of Young's vision, and perhaps some of the processes—not only racial—which this intensely private, poignant genius contended with during his last years, as he gradually drank himself to death. While it is interesting to see Lester Young against the background of his times, he remains unique, as anyone who listens to his *nonpareil* recordings can hear.

Lester Leaps In: The Life and Times of Lester “Pres” Young.
By Douglas Henry Daniels.

Beacon Press; 524 pages; $30 and £25

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About sponsorship

South African fiction

Fish fingers and garlic salt

Mar 14th 2002
From The Economist print edition

JOHN, the narrator of “Youth”, is a misfit in 1950s South Africa. He feels no identification with his Afrikaner culture; neither has he any connection to the misery of the black masses. South Africa belongs to them and he is there on some shaky pretext, a historical misunderstanding. South Africa is his albatross. He believes he must flee an impending revolution and discover real life, remake himself, slough off his awkward exterior and reveal to the world the burning passion that is his core.

English being his only foreign language, he settles on London with youthful hopes for life and love and art. Instead he finds himself in a city of “low, grey, wet weather” where he joins the other foreigners who “for daft reasons of their own choose to live where they don't belong”. He is a gauche colonial, neither refugee nor tourist, and none of London's throngs of beautiful girls is interested in that smouldering core of his.

Youth
By J.M. Coetzee

Secker & Warburg; 224 pages; £14.99.

Buy it at
Amazon.co.uk

Instead of seeking out his new passionate self through human contact, John turns to literature, expecting Eliot, Pound, Flaubert and Ford Madox Ford to provide answers. Like Frédéric Moreau in Flaubert's “Sentimental Education”, he seeks literary success and a grand passion in a sophisticated city; unlike Frédéric, he appears to have no appetite for life, for food, for drink, for sensual pleasure. His few affairs are devoid of pleasure or joy and serve only to increase his isolation.

Watching as John becomes locked within himself is like viewing the inevitable disintegration of a prisoner in solitary confinement. J.M. Coetzee's relentless portrait of alienation runs a serious risk of alienating the reader. John's fear of life makes him a less attractive character than the middle-aged David Lurie in Mr Coetzee's Booker prize-winning “Disgrace”.

Yet moments of sad humour rescue John and even provoke a flicker of tenderness. In an attempt to capture the exoticism of Ford's Provence, filled with fiery, aquiline beauties, John prepares himself a solitary meal of fish fingers, cooked in olive oil and sprinkled with garlic salt, instead of his usual sausages.

Mr Coetzee's clear, uncompromising prose drives us along on John's stark journey, with prickling palms and short breaths. As if a weight is pressing down on our chests, we watch as all signs of youth fall away from him. Only towards the end, when he feels he might die on this “wet, miserable island” to which he has no ties, does he extend an invitation to a fellow foreigner. His eyes open to the realisation that his intellect has failed him. It is only through contact with other people that energy for life is found, that it becomes more than a “holding tight all of the time, trying not to fall”.

Flaubert wanted people to read “A Sentimental Education”, as he put it, in order to live. Mr Coetzee's “Youth” shows us how not to live. John is not a likeable character, but he is unforgettable, a grey ghost haunting us, driving us from isolation to seek human warmth.

Youth.
By J.M. Coetzee.
Secker & Warburg; 224 pages; £14.99.
To be published in the United States by Viking Penguin (July)

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German fiction

Look a little closer

Mar 14th 2002
From The Economist print edition

THESE are two first novels by authors who have previously published short stories. The hero of Annette Pehnt's “Ich muss los” (I've Got to Go), a young man called Dorst, is chronically incapable of staying still. Harmed by the early death of his father, he orbits the ordinary centres of life and risks flying off into utter loneliness. There is some hope that he may reattach himself in time, through love.

Angelika Klüssendorf's “Alle leben so” (We All Live Like This) is composed of pretty well autonomous tales, through which various characters recur so that their lives are amplified and interconnected. Employing narrators who are professionally interested in other people's lives—a debt collector, a police surveillance officer, a confidence trickster, the writer herself—Ms Klüssendorf multiplies the perspectives and leaves us believing that all modern living is bizarre. “We all live like this,” one of her characters remarks. And how do they live? Anxiously, compulsively and vulnerably, by turns exploiting and exploited, all in need of, if not actually striving to gain, a centre in love and real human connection. The dismal conclusion may be that, in the conditions we have created, no such centre and connection are possible.

Often, for the outsider—for the unhappy Dorst, for example—the lives of more rooted citizens may themselves seem rather odd. Ms Pehnt's story, set in her home town of Freiburg, demonstrates this; but the oddities are mild and amusing. Dorst is at risk because he has gone so far into strangeness that it incapacitates him. But we feel he might well get sorted out, and the world he would then join would not be such a bad place after all.

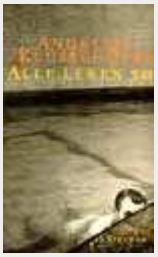
Ms Klüssendorf, by contrast, offers no such comfort. In her world, which is mostly the metropolis but also elsewhere in the damaged territories that were once the GDR, the notion of eccentricity does not apply: there is no agreed centre from which to gauge aberration.

Both novels have great merit. Ms Pehnt, concentrating on one life and its possibilities, decidedly engages and holds our sympathy. But Ms Klüssendorf does more. In a plausible way—using those narrators—she builds up real details which amount to a context that is inimical to humane living. The real external circumstances of her characters' lives serve as literal metaphors of their existential state; they both cause that state and overwhelmingly express it. The metaphor works annihilatingly on the life of which it is the expression. “We all live like this” might sound a bit sweeping. And yet we are left with the uneasy sense that, under close scrutiny, many lives would be seen to be falling apart around a centre that cannot hold.

Alle leben so.
By Angelika Klüssendorf.
S. Fischer Verlag; 190 pages; euro18.90

Ich muss los.
By Annette Pehnt.
Piper; 125 pages; euro15.90

Alle leben so
By Angelika Klüssendorf



S. Fischer Verlag; 190 pages; euro18.90

Buy it at Amazon.de

Ich muss los
By Annette Pehnt

Piper; 125 pages; euro15.90

Buy it at Amazon.de

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About sponsorship

French and German bestsellers

What the world is reading

Mar 14th 2002
From The Economist print edition

French and German readers grapple with national and international politics

LIONEL JOSPIN, the Socialist candidate in France's presidential election in April, will be pleased to find himself at the top of our current non-fiction list, especially as the incumbent Jacques Chirac barely scrapes in at the bottom of the bestseller ballot. Books on Martine Aubry, a former minister for employment, and state spending also feature. Laurent Gerra's satire, “Ces cabots qui nous gouvernent” (These Pooches That Govern Us), with caricatures by Jean-Claude Morchoisne, offers light relief.

People in the public eye also dominate the German non-fiction list. A life of Hannelore Kohl, who suffered a crippling handicap and killed herself last year, is at number one. Peter Scholl-Latour surveys the world's flash-points, and two journalists at *Der Spiegel*, Stefan Aust and Cordt Schnibben, have compiled eyewitness accounts from Ground Zero. Interest in Afghanistan remains strong, as two behind-the-burqa books attest. Waris Dirie, meanwhile, a fashion model and goodwill ambassador for the United Nations, describes her emotionally wrenching return to Somalia. Twentieth-century history is also represented by the memoir of Hitler's last personal secretary, Traudl Junge, herself the subject of an acclaimed film which premiered at this year's Berlin film festival.

Fiction-wise, only a couple of heavy-hitters stand out: Jean-Christophe Rufin's “Rouge Brésil”, winner of the Goncourt prize, and Günter Grass's “Im Krebsgang”, both of which have previously been reviewed in these pages.

Bestsellers

	FRENCH FICTION	FRENCH NON-FICTION
1	**Je l'aimais** *by Anna Gavalda* Getting to know one's daughter-in-law	**Le temps de répondre** *by Lionel Jospin* Presidential candidate's political progra
2	**Baudolino** *by Umberto Eco* Medieval fiction	**Ces cabots qui nous gouvernent** *by Laurent Gerra and Jean-Claude Morcho* Satirical portraits of political leaders
3	**Corrida pour une vache folle** *by Patrice Dard* Surreal humour in a Spanish setting	**La dame des 35 heures** *by Philippe Alexandre and Béatrix de l'Au* Political career of Martine Aubry
4	**Dreamcatcher** *by Stephen King* Supernatural thriller	**...vous avez dit Serrault?** *by Michel Serrault* Actor's autobiography
5	**La reine Liberté, Vol. 2** *by Christian Jacq* Dramatised life of an Egyptian queen	**Mères-filles** *by Caroline Eliacheff and Nathalie Heinich* Mother-daughter relationships
6	**Pensées secrètes** *by David Lodge* Game of seduction	**Qu'apprend-on à l'école élémentaire?** *published by the Conseil national des pro* Elementary school curriculum
7	**L'île des chiens** *by Patricia Cornwell* Cop drama with a comic twist	**Victor Hugo, Vol. 1** *by Max Gallo* Biography of a literary giant
8	**Mademoiselle liberté** *by Alexandre Jardin* Making life into art	**Le grand gaspillage** *by Jacques Marseille* Commentary on state spending and refo
9	**Rouge Brésil*** *by Jean-Christophe Rufin* Intrigue in colonial Brazil	**Qu'apprend-on à l'école maternelle?** *published by the Conseil national des pro* Nursery school curriculum
10	**Où es-tu?** *by Marc Levy* A promise of love and its consequences	**L'homme qui ne s'aimait pas** *by Eric Zemmour* Portrait of Jacques Chirac

	GERMAN FICTION	GERMAN NON-FICTION
1	**Im Krebsgang*** *by Günter Grass* Coming to terms with Germany's past	**Hannelore Kohl** *by Dana Kujacinski and Peter Kohl* Biography of ex-chancellor's late wife
2	**Harry Potter und der Gefangene von Askaban** *by J.K. Rowling* Convict on the run after trainee wizard	**Die deutsche Rechtschreibung** *published by Duden* Spelling and grammar reference book
3	**Harry Potter und der Feuerkelch** *by J.K. Rowling* Harry in wizard tournament	**Bis zur letzten Stunde** *by Traudl Junge and Melissa Müller* Hitler's secretary tells all
4	**Harry Potter und die Kammer des Schreckens** *by J.K. Rowling* More Harry and more wizardry	**Das Universum in der Nußschale** *by Stephen Hawking* Pop science plus fab pictures
5	**Harry Potter und der Stein der Weisen** *by J.K. Rowling* Harry starts wizard school	**Der Fluch des neuen Jahrtausends** *by Peter Scholl-Latour* Veteran journalist on modern hot-spots
6	**Die vierte Hand** *by John Irving* Babe-magnet finds true love	**Nach Afghanistan kommt Gott nur noch zum Weinen** *by Siba Shakib* Life story of an Afghan woman
7	**Der Richter** *by John Grisham* Legal thriller	**Nomadentochter** *by Waris Dirie* Top model returns to her native Somalia
8	**Leibhaftig** *by Christa Wolf* Illness and recovery	**Anleitung zum Unschuldigsein** *by Florian Illies* How to stop worrying and get on with enjoying life
9	**Der Herr der Ringe** *by J.R.R. Tolkien* Classic fantasy	**11 September: Geschichte eines Terrorangriffs** *by Stefan Aust and Cordt Schnibben* Interviews with witnesses and survivors of 9/11
10	**Baudolino** *by Umberto Eco* Medieval fiction	**Das verbotene Gesicht** *by Latifa* Life under the Taliban

*Reviewed in *The Economist* on November 10th 2001 and February 16th 2002 respectively

Sources: *Livres Hebdo, Focus* Descriptions by *The Economist*

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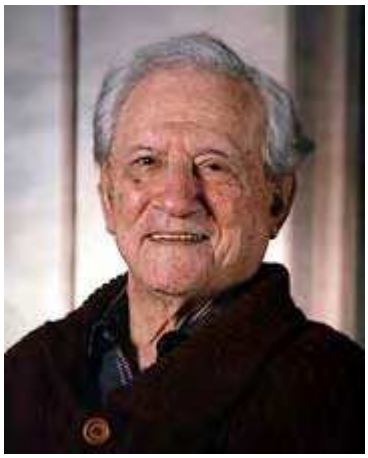
About sponsorship

Leo Ornstein

Mar 14th 2002
From The Economist print edition

Leo Ornstein, a radical composer, died on February 24, aged 108 or 109



IN THE 1920s had you asked a concert-goer who were the most innovative composers of the time, the names suggested would probably have been Igor Stravinsky, Arnold Schoenberg and Leo Ornstein. Some would have ranked Mr Ornstein first. His “Suicide in an Airplane”, a piano work, dazzled the critics. This was music at the frontier of composition. Beyond it, said Mr Ornstein threateningly, was chaos. He filled the concert halls of the United States, Europe and South America with sounds played with a frenzy that threatened to damage the mechanism of his piano, and left members of the audience in a state of shock.

The 20-year period from say 1912, when Leo Ornstein, aged 20, began composing in a highly individual style, was perhaps the most creative of the 20th century. Stravinsky's “Rite of Spring” burst into life in 1913. Schoenberg first used his 12-tone technique in an entire work in his suite for piano in 1923. In the visual arts Marcel Duchamp's “Fountain”, a urinal, established in 1917 “readymade” art, which continues to be practised, especially in Britain. By the 1920s Picasso's “Les Demoiselles d'Avignon” had become the driving force behind cubism, although painted much earlier. “Ulysses” was published in Europe in 1922. Painting, literature and music were seen to belong together. Mr Ornstein's furious music was compared to Futurism, the name given to the painting and writing of an Italian group that aimed to glorify the machine.

In the 1930s Mr Ornstein ended his public performances and was hardly heard of again. A good thing too, some said. Mr Ornstein's music was of “insufferable hideousness”, according to one critic. The excitement of the previous decades for new sounds seemed to have died. If the avant-garde was still heard in the concert hall, the programme would be sugared with Mozart and Beethoven. The music-loving public decided that after all it didn't really love Mr Ornstein and his contemporary composers, although what they did was undoubtedly clever.

One of the bad boys

Leo Ornstein's cleverness apparently became evident at the age of three when he started to learn the piano. There was music in the family. His father was the cantor in his local synagogue in St Petersburg. At ten Leo was admitted to the St Petersburg Conservatory and became a pupil of Alexander Glazunov, a much admired composer of the time. But Jews were suffering in tsarist Russia, partly because they were associated with revolutionary forces, and in 1907, when Leo was 14, the family moved to New York. He gave his first public recital at 18. It was a conventional debut, with pieces by Chopin and Bach. His earliest compositions were far from alarming. “At Twilight” was a typical title. Exactly when he joined the “bad boys” of music, as they were called, is unclear. But within a year or two his piano was suffering grievous bodily harm from such numbers as “Wild Men's Dance”.

A biography published when Mr Ornstein was a mere 26 sought to suggest that there was something a bit unnatural about his prodigious talent.

> To many he represents an evil musical genius wandering...in a weird no man's land haunted with tortuous sound, with wails of futuristic despair, with cubist shrieks and post-impressionist crises and crashes. He is the great anarch, the iconoclast...His gospel is black heresy.

Such invention brought in the crowds but in fact he was a remarkably balanced man, with a stable family

life and a marriage that lasted for 67 years. In a memoir his daughter described Mr Ornstein's liking for the countryside, how he enjoyed climbing mountains and how the family grew their own food. Whether all this contributed to his astonishing longevity is anyone's guess. He was healthy with it. Our photograph was taken shortly after his 103rd birthday; or it might have been his 104th. The year of his birth is in dispute. His wife Pauline, also an accomplished pianist, lived to 91.

His decision to abandon the public stage had a rationale too. The constant travelling from concert to concert, the relentless need to practise amounted to a kind of tyranny. Mr Ornstein became suspicious of the fragility of fame. If his music has any value, he told a reporter, it will be picked up and played. “If it has no value, it deserves its neglect.” In 1935 he and Pauline founded a school of music in Philadelphia and ran it for more than 20 years.

In the 1970s Leo Ornstein was not exactly rediscovered, but he was re-noticed. He received a number of honorary doctorates. The early biography was reprinted. The manuscripts of some of his compositions were deposited at Yale. It turned out that he was still composing. Enthusiasts recorded some of his pieces. America was going through one of its periodic bouts of nationalism about its culture. It is not entirely content that it gave birth to jazz and that its magical popular composers, Gershwin, Berlin, Kern, Porter and so on, produced melodies to rival Schubert's. Mr Ornstein produced a body of work that included a violin sonata, several string quartets and a piano concerto. You may not hear a lot of his music these days, but no one doubts that it is high art.

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Overview

Mar 14th 2002
From The Economist print edition

Japan's GDP fell more sharply than expected in the fourth quarter of 2001, by an annualised rate of 4.5%. This was the third consecutive quarter in which the economy had contracted. The main drag on output was business investment, which plunged at an annual rate of 40%. Machinery orders, a leading indicator of investment, fell by 15.6% in January, suggesting that capital spending will remain weak through this year.

Investors, however, shrugged off the gloomy news. The **Nikkei 225** has jumped by more than 20% since early February; the yen has gained 4% against the dollar over the past two weeks. These rallies are linked to the approaching end of the Japanese financial year on March 31st. Analysts argue that the government is trying to prop up share prices in order to flatter banks' balance sheets. The yen has been similarly bolstered as firms repatriate assets and profits from overseas to improve their own books just before the end of the financial year.

America's unemployment rate fell to 5.5% in February from 5.6% in January, the first increase in payrolls in seven months. Forecasters had been expecting unemployment to rise to 5.7%. The National Bureau of Economic Research, America's recession arbiter, cited the news when it said that the current recession might be nearing an end, but cautioned that it would wait for more economic data to ensure that the economy is not headed for another slump. America's economy has shed more than 1.4 million jobs since the beginning of the recession last March, with more than 80% of the lay-offs occurring between September and January. Retail sales rose by 0.3% in January.

The **euro area's** GDP fell in the fourth quarter, by 0.8% at an annual rate. Output fell in all the big three economies, **Germany**, **France** and **Italy**. Inflation in the euro zone eased to 2.5% in the year to February from 2.7% in January, when the introduction of the euro encouraged some firms to round up their prices. Inflation in the **Netherlands** fell to 3.8% in February, down from a recent peak of 4.9% in May 2001. But it is still the highest rate among all the countries in our table.

Canada's unemployment rate was unchanged at 7.9% in February, though manufacturing industry added workers.

Britain's industrial production fell by more than expected in January, down by 5.2% over the 12 months, its biggest annual decline since 1991.

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Output, demand and jobs

Mar 14th 2002
From The Economist print edition

% change at annual rate

	GDP		The Economist poll GDP forecasts		Industrial production		Retail sales (volume)		Unemployment % rate	
	1 qtr	1 year	2002	2003	latest		latest		latest	year ago
Australia	+ 5.2	+ 4.1 Q4	+ 3.4	+ 3.7	+ 0.4	Q3	+ 4.8	Q4	6.6 Feb	6.6
Austria	– 0.3	+ 0.9 Q3	+ 1.1	+ 2.4	– 3.3	Dec	– 1.4	Nov	3.7 Feb	3.4
Belgium	– 0.8	+ 0.1 Q4	+ 1.1	+ 2.9	– 6.4	Dec	– 2.0	Dec	10.8 Feb*	10.6
Britain	+ 0.1	+ 1.7 Q4	+ 1.9	+ 2.9	– 5.2	Jan	+ 4.2	Jan	5.2 Dec†	5.3
Canada	+ 2.0	+ 0.9 Q4	+ 1.7	+ 3.7	– 5.5	Dec	+ 5.7	Dec	7.9 Feb	6.9
Denmark	+ 0.7	+ 0.7 Q4	+ 1.4	+ 2.3	– 1.7	Jan	+ 1.5	Dec	5.0 Jan	5.3
France	– 0.6	+ 0.9 Q4	+ 1.4	+ 2.9	– 1.3	Jan	– 0.6	Dec	9.0 Jan	8.9
Germany	– 1.0	– 0.1 Q4	+ 0.7	+ 2.5	– 5.1	Dec	– 4.1	Dec	9.6 Feb**	9.3
Italy	– 0.8	+ 0.7 Q4	+ 1.2	+ 2.8	– 3.4	Jan	– 0.8	Dec	9.3 Oct	10.0
Japan	– 4.5	– 1.9 Q4	– 1.2	+ 1.1	–11.1	Jan	– 3.8	Jan	5.3 Jan	4.8
Netherlands	nil	+ 0.4 Q4	+ 1.2	+ 2.9	– 6.2	Dec	+ 1.2	Nov	1.9 Jan§	2.6
Spain	+ 0.7	+ 2.3 Q4	+ 1.9	+ 3.2	– 0.1	Jan	na		12.8 Jan	13.4
Sweden	+ 1.4	+ 1.1 Q4	+ 1.4	+ 2.8	+ 0.9	Dec	+ 1.0	Dec	4.4 Jan*	4.4
Switzerland	+ 0.1	+ 0.4 Q4	+ 1.0	+ 2.0	+ 1.9	Q3	+ 1.2	Dec	2.6 Feb*	1.9
United States	+ 1.4	+ 0.4 Q4	+ 1.7	+ 3.6	– 5.2	Jan	+ 5.4	Jan	5.5 Feb	4.2
Euro area	– 0.8	+ 0.6 Q4	+ 1.2	+ 2.8	– 4.1	Dec	+ 0.4	Dec	8.4 Jan	8.5
MORE COUNTRIES	Data for the countries below are not provided in printed editions of *The Economist*									
Finland	– 1.8	– 0.9 Q4	na	na	– 3.1	Dec	+ 4.5	Nov	9.9 Jan*	9.9
Greece	na	+ 3.7 Q4	na	na	– 4.0	Dec	+ 4.1	Oct	na	na
Iceland	na	+ 3.62000	na	na	+ 2.5	2000	na		1.8 Dec	1.3
Ireland	na	+ 3.2 Q3	na	na	– 0.7	Dec	+ 9.1	Dec	4.2 Feb	3.6
Luxembourg	na	+ 8.52000	na	na	– 9.2	Dec	+10.0	Oct	2.7 Dec	2.6
New Zealand	+ 2.8	+ 2.1 Q3	na	na	+ 2.6	Q3	+ 7.4	Q4	5.4 Q4	5.6
Norway	+ 1.0	+ 1.8 Q4	na	na	+ 2.0	Jan	+ 2.6	Jan	3.3 Q4	3.1
Portugal	– 1.0	+ 1.3 Q3	na	na	+ 0.8	Jan	– 2.4	Jan	4.1 Q4*	3.8

*Not seasonally adjusted. †Oct-Dec; claimant count rate 3.2% in Jan. §Nov-Jan. **EU harmonised rate 8.1% in Feb.

Text refers only to the first 16 countries listed

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Prices and wages

Mar 14th 2002
From The Economist print edition

% change at annual rate

	Consumer prices			The Economist poll consumer prices forecast		Producer prices			Wages/earnings		
	latest		year ago	2002	2003	latest		year ago	latest		year ago
Australia	+ 3.1	Q4	+ 5.8	+ 2.5	+ 2.3	– 0.7	Q4	+ 8.4	+ 4.9	Q4	+ 5.4
Austria	+ 2.1	Jan	+ 2.8	+ 1.6	+ 1.7	– 0.6	Feb	+ 2.6	+ 2.7	Dec	+ 2.2
Belgium	+ 2.6	Feb	+ 2.3	+ 1.6	+ 1.6	– 2.6	Dec	+ 7.3	+ 3.1	Q4	+ 1.6
Britain	+ 1.3	Jan	+ 2.7	+ 2.0	+ 2.4	– 0.3	Feb	+ 1.3	+ 3.3	Dec	+ 4.4
Canada	+ 1.3	Jan	+ 3.0	+ 1.2	+ 1.9	– 1.2	Jan	+ 3.2	+ 3.5	Dec	+ 0.8
Denmark	+ 2.5	Feb	+ 2.4	+ 1.8	+ 2.0	+ 0.6	Jan	+ 4.1	+ 4.1	Q4	+ 3.8
France	+ 2.0	Feb	+ 1.4	+ 1.2	+ 1.3	– 1.2	Jan	+ 3.6	+ 4.1	Q3	+ 5.3
Germany	+ 1.7	Feb	+ 2.6	+ 1.3	+ 1.4	+ 0.2	Jan	+ 3.8	+ 2.2	Dec	+ 2.2
Italy	+ 2.5	Feb	+ 3.0	+ 1.8	+ 1.8	– 1.2	Jan	+ 5.4	+ 2.8	Dec	+ 1.7
Japan	– 1.4	Jan	– 0.3	– 1.0	– 0.5	– 0.1	Feb	+ 0.1	– 3.4	Jan	+ 0.2
Netherlands	+ 3.8	Feb	+ 4.5	+ 2.7	+ 2.3	– 2.2	Dec	+ 7.6	+ 3.8	Jan	+ 4.4
Spain	+ 3.1	Feb	+ 3.8	+ 2.3	+ 2.4	+ 0.1	Jan	+ 3.9	+ 3.6	Q3	na
Sweden	+ 2.9	Jan	+ 1.7	+ 2.0	+ 2.0	– 0.5	Jan	+ 3.0	+ 3.0	Nov	+ 2.2
Switzerland	+ 0.7	Feb	+ 0.8	+ 0.6	+ 0.9	– 1.4	Jan	+ 1.4	+ 1.3	2000	+ 0.3
United States	+ 1.1	Jan	+ 3.7	+ 1.3	+ 2.1	– 2.6	Jan	+ 4.8	+ 3.7	Feb	+ 4.1
Euro area	+ 2.5	Feb	+ 2.6	+ 1.6	+ 1.6	– 0.9	Jan	+ 4.8	+ 2.9	Q3	+ 2.5
MORE COUNTRIES	Data for the countries below are not provided in printed editions of *The Economist*										
Finland	+ 1.8	Feb	+ 2.7	na	na	– 1.3	Jan	+ 4.5	+ 4.3	Q4	+ 5.0
Greece	+ 3.4	Feb	+ 3.5	na	na	+ 2.4	Dec	+ 6.7	na		na
Iceland	+ 8.7	Mar	+ 3.9	na	na	+ 9.6	Feb	+ 5.3	+10.0	Jan	+ 9.3
Ireland	+ 4.9	Jan	+ 5.2	na	na	nil	Dec	+ 4.5	+ 8.7	Q3	+ 7.4
Luxembourg	+ 2.3	Jan	+ 2.9	na	na	– 2.1	Dec	+ 5.0	+ 3.4	Aug	+ 7.0
New Zealand	+ 1.7	Q4	+ 4.0	na	na	+ 1.8	Q4	+10.7	+ 2.2	Q4	+ 1.6
Norway	+ 1.3	Jan	+ 3.4	na	na	– 8.2	Jan	+ 3.3	+ 4.6	Q3	+ 4.2
Portugal	+ 3.5	Jan	+ 4.4	na	na	– 6.1	Jan	+ 7.3	+ 2.4	Apr	na

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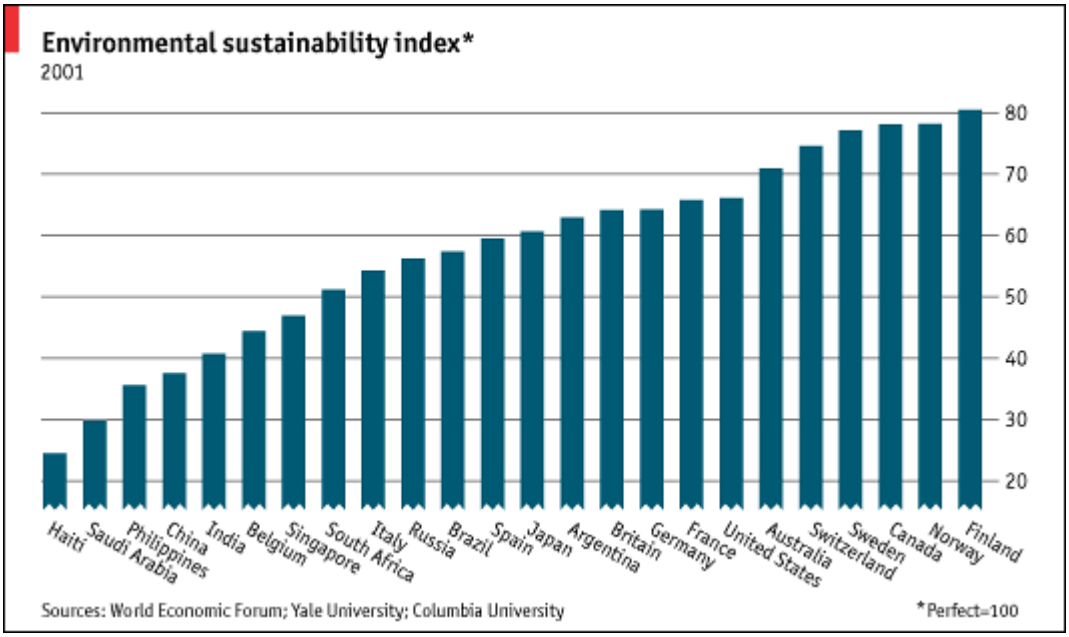
Environmental sustainability index

Mar 14th 2002
From The Economist print edition



Finland and Norway have the most environmentally sustainable economies. The Environmental Sustainability Index is an assessment of dozens of variables that influence the environmental health of economies. One of the strongest determinants, besides wealth, seems to be good governance including a broad commitment to the rule of law.

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Money and interest rates

Mar 14th 2002
From The Economist print edition

	Money supply* % change on year ago			Interest rates % p.a. (Mar 13th 2002)					
				3-mth money market		2-year	10-year gov't bonds		corporate
	narrow	broad		latest	year ago	gov't bonds	latest	year ago	bonds
Australia	+21.6	+14.7	Jan	4.36	5.10	5.11	6.40	4.99	7.25
Britain	+ 8.0	+ 6.0	Jan	4.06	5.44	4.87	5.21	4.67	6.32
Canada	+17.7	+ 5.1	Jan	2.19	4.62	3.85	5.69	5.26	7.00
Denmark	+ 6.8	+ 8.7	Jan	3.70	5.27	4.45	5.33	4.94	7.09
Japan	+19.4	+ 3.7	Feb	0.07	0.14	0.09	1.45	1.15	1.56
Sweden	+ 7.1	+ 6.2	Nov	4.05	4.08	5.01	5.56	4.70	5.72
Switzerland	+ 4.1	+ 5.0	Jan	1.73	3.43	2.64	3.60	3.28	4.56
United States	+ 7.8	+11.3	Jan	1.88	4.84	3.45	5.26	4.84	7.04
Euro area†	+ 6.6	+ 7.9	Jan	3.37	4.78	4.08	5.11	4.64	5.76

*Narrow: M1 except Britain and Sweden M0, broad: M2 or M3 except Britain M4. †Germany for bonds. Benchmarks: US 30-year 5.72%, Japan No.237 1.45%. Central bank rates: US fed funds 1.75%, ECB refinancing 3.25%, BOJ overnight call 0.002%, BOE repo 4.00%. Sources: Commerzbank, Danske Bank, J.P. Morgan Chase, Royal Bank of Canada, Stockholmsbörsen, UBS Warburg, DRI-WEFA, Westpac, Thomson Financial Datastream. Rates cannot be construed as banks' offers.

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The Economist commodity price index

Mar 14th 2002
From The Economist print edition

1995=100

	Mar 5th	Mar 12th*	% change on one month	% change on one year
Dollar index				
All items	68.9	70.0	+ 3.6	– 1.3
Food	69.1	70.3	+ 3.7	– 0.4
Industrials				
All	68.8	69.6	+ 3.3	– 2.4
Nfa†	67.9	69.3	+ 3.5	+ 5.4
Metals	69.5	69.9	+ 3.2	– 8.2
Sterling index				
All items	76.5	78.2	+ 5.0	+ 1.6
Euro index				
All items	104.3	105.4	+ 3.9	+ 3.7
Yen index				
All items	96.9	95.9	+ 0.3	+ 5.8
Gold				
$ per oz	298.20	293.20	– 2.3	+ 9.1
West Texas Intermediate				
$ per barrel	23.28	24.36	+18.3	–11.1

* Provisional. † Non-food agriculturals.

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Stockmarkets

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From The Economist print edition

Market indices

	Mar 13th	2002 high	2002 low	% change on one week	% change on record high	% change on Dec 31st 2001 in local currency	% change on Dec 31st 2001 in $ terms
Australia (All Ordinaries)	3,396.0	3,440.0	3,331.2	– 0.0	– 1.3	+ 1.1	+ 2.8
Austria (ATX)	1,233.1	1,245.2	1,114.4	+ 0.3	–29.0	+ 8.1	+ 6.4
Belgium (Bel 20)	2,702.3	2,811.1	2,622.4	– 1.4	–26.6	– 2.9	– 4.4
Britain (FTSE 100)	5,272.0	5,323.8	5,024.1	+ 0.5	–23.9	+ 1.0	– 1.9
Canada (Toronto Composite)	7,864.2	7,958.1	7,418.1	– 1.0	–30.9	+ 2.3	+ 2.6
Denmark (KBX)	226.8	229.8	216.8	+ 0.1	–24.8	+ 0.9	– 0.7
France (SBF 250)	2,978.1	3,034.9	2,782.5	– 0.8	–32.2	– 0.1	– 1.7
(CAC 40)	4,523.8	4,682.8	4,239.0	– 1.4	–34.6	– 2.2	– 3.8
Germany (Xetra DAX)	5,246.0	5,359.6	4,745.6	– 0.7	–35.0	+ 1.7	+ 0.0
Italy (BCI)	1,474.7	1,481.1	1,344.9	+ 0.7	–32.4	+ 2.9	+ 1.2
Japan (Nikkei 225)	11,415.3	11,919.3	9,420.9	+ 0.5	–70.7	+ 8.3	+ 9.6
(Topix)	1,075.7	1,125.4	922.5	+ 0.2	–62.7	+ 4.2	+ 5.5
Netherlands (AEX)	511.4	519.1	478.3	– 0.3	–27.1	+ 0.9	– 0.7
Spain (Madrid SE)	822.4	838.0	773.2	– 0.8	–28.3	– 0.2	– 1.9
Sweden (Affarsvarlden Gen)	227.3	236.8	209.9	– 0.2	–43.2	– 1.8	– 1.1
Switzerland (Swiss Market)	6,497.1	6,531.2	6,105.2	+ 1.3	–22.8	+ 1.2	+ 0.3
United States (DJIA)	10,501.9	10,632.4	9,618.2	– 0.7	–10.4	+ 4.8	+ 4.8
(S&P 500)	1,154.1	1,172.5	1,080.2	– 0.7	–24.4	+ 0.5	+ 0.5
(Nasdaq Comp)	1,862.0	2,059.4	1,716.2	– 1.5	–63.1	– 4.5	– 4.5
Europe (FTSE Eurotop 300)*	1,255.8	1,273.7	1,185.5	– 0.3	–26.3	– 0.4	– 2.0
Euro area (FTSE Ebloc 100)*	1,095.5	1,121.6	1,013.0	– 1.0	–29.3	– 1.5	– 3.1
World (MSCI)†	1,006.8	1,023.5	937.0	– 0.4	–30.5	na	+ 0.3
World bond market (Salomon)‡	436.3	443.1	430.3	– 0.1	– 5.1	na	– 0.8

*In euro terms. †Morgan Stanley Capital International index includes individual markets listed above plus eight others, in dollar terms.
‡Salomon Smith Barney World Government Bond Index, total return, in $ terms.

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Trade, exchange rates and budgets

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	Trade balance*, $bn latest 12 months		Current account $bn latest 12 mths		The Economist poll % of GDP, forecast 2002	2003	Exchange rate trade-weighted† Mar 13th	year ago	Currency units per $ Mar 13th	year ago	per £	per euro	per ¥100	Budget balance % of GDP 2001‡
Australia	+ 2.1	Jan	− 9.2	Q4	− 3.2	− 3.3	74.3	69.2	1.92	1.96	2.73	1.67	1.45	0.1
Austria	− 4.7	Nov	− 3.6	Dec	− 2.1	− 1.9	100.0	100.5	1.15§	1.08	1.64	–	0.87	nil
Belgium	+ 11.2	Dec	+ 12.4	Sep	+ 4.6	+ 4.5	98.8	99.3	1.15§	1.08	1.64	–	0.87	nil
Britain	− 48.4	Dec	− 17.7	Q3	− 2.0	− 2.1	105.8	105.0	0.70	0.68	–	0.61	0.53	1.1
Canada	+ 41.3	Dec	+ 18.9	Q4	+ 2.1	+ 2.2	76.0	77.3	1.59	1.55	2.26	1.38	1.20	2.8
Denmark	+ 7.1	Jan	+ 4.2	Jan	+ 2.4	+ 2.3	101.9	102.2	8.55	8.04	12.1	7.43	6.47	2.0
France	+ 2.9	Dec	+ 26.8	Dec	+ 1.7	+ 1.7	101.3	102.0	1.15§	1.08	1.64	–	0.87	-1.5
Germany	+ 87.9	Jan	+ 15.4	Jan	+ 0.1	+ 0.2	98.3	99.1	1.15§	1.08	1.64	–	0.87	-2.5
Italy	+ 8.7	Dec	+ 3.2	Dec	+ 0.2	nil	72.3	72.8	1.15§	1.08	1.64	–	0.87	-1.4
Japan	+ 72.2	Jan	+ 91.1	Jan	+ 2.3	+ 2.3	131.2	138.5	132	120	188	115	–	-6.4
Netherlands	+ 21.4	Dec	+ 11.8	Q4	+ 3.7	+ 4.0	97.7	98.3	1.15§	1.08	1.64	–	0.87	1.1
Spain	− 38.4	Nov	− 15.5	Nov	− 2.2	− 1.9	74.1	74.4	1.15§	1.08	1.64	–	0.87	nil
Sweden	+ 12.9	Jan	+ 7.4	Jan	+ 2.4	+ 2.5	76.3	76.9	10.41	9.74	14.8	9.04	7.87	3.8
Switzerland	+ 1.6	Jan	+ 25.4	Q3	+10.1	+10.1	112.3	107.5	1.70	1.66	2.41	1.48	1.28	na
United States	−426.6	Dec	−430.7	Q3	− 4.1	− 4.3	122.6	117.6	–	–	1.42	0.87	0.76	0.6
Euro area	+ 43.4	Dec	− 15.6	Dec	+ 0.2	+ 0.2	78.2	79.7	1.15	1.08	1.64	–	0.87	-1.2
MORE COUNTRIES	Data for the countries below are not provided in printed editions of *The Economist*													
Finland	+ 12.4	Jan	+ 8.3	Dec	na	na	77.9	78.5	1.16§	1.08	1.65	–	0.88	3.7
Greece	− 19.2	Nov**	− 7.3	Nov	na	na	57.4	57.6	1.16	1.08	1.65	–	0.88	0.2
Iceland	nil	Jan	− 0.7	Q3	na	na	na	na	101	87	143	87.7	76.4	-0.2
Ireland	+ 31.4	Dec	− 1.2	Q3	na	na	87.1	88.0	1.16§	1.08	1.65	–	0.88	3.2
Luxembourg	− 2.8	Dec	+ 0.4	Q3	na	na	98.8	99.3	1.16§	1.08	1.65	–	0.88	5.3
New Zealand	+ 0.3	Jan	− 0.2	Q3	na	na	83.5	79.1	2.39	2.40	3.39	2.08	1.81	1.3
Norway	+ 24.5	Jan	+ 23.8	Dec	na	na	98.4	93.8	8.92	8.98	12.7	7.75	6.74	14.3
Portugal	− 14.0	Nov	− 10.5	Dec	na	na	89.1	89.6	1.16§	1.08	1.65	–	0.88	-1.7

*Merchandise. Australia, Britain, France, Canada, Japan and United States imports fob, exports fob. All others cif/fob. †1990=100, Bank of England. ‡OECD estimate. §Now using euro only. **Corrected.

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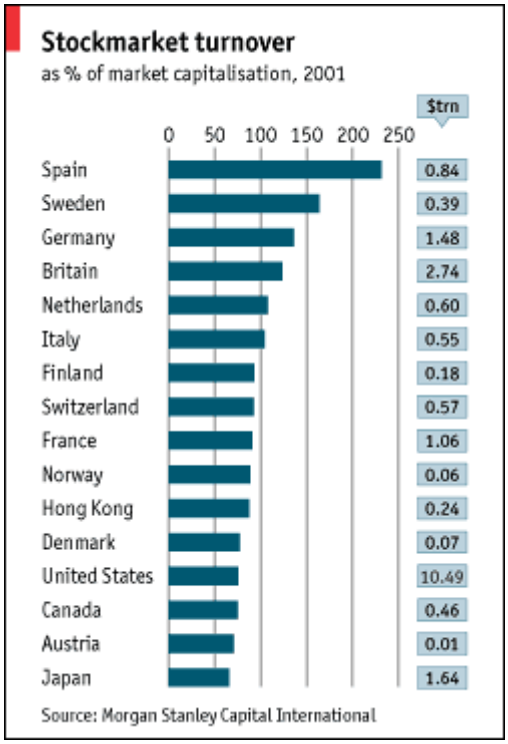
About sponsorship

Stockmarket turnover

Mar 14th 2002
From The Economist print edition



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Overview

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From The Economist print edition

The World Bank is expecting recovery in the developing world to be led by East Asia, which is forecast to grow by 5.2% in 2002 and by 6.9% in 2003. By contrast, it expects Latin America and the Caribbean to grow by only 0.5% this year. The Middle East and Africa will be the slowest-growing developing regions in 2003 and 2004, according to its annual *Global Development Finance* report.

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Women in parliament

Mar 14th 2002
From The Economist print edition

One in seven of the world's parliamentarians is a woman. But that average hides big differences between countries. Nordic countries have the highest percentage of female politicians: 43% in Sweden. At the other extreme, only 2% of Egypt's members of parliament are women. Huge differences can exist within regions. In Brazil, 7% of members are women; in Argentina, 31%.

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Economy

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	% change on year earlier						Latest 12 months, $bn				Foreign reserves* $bn, latest	
	GDP		Industrial production		Consumer prices		Trade balance		Current account			
China	+ 6.6	Q4	+ 9.9	Jan	nil	Feb	+24.1	Jan	+20.5	2000	211.8	Nov
Hong Kong	– 1.6	Q4	– 7.1	Q3	– 3.5	Jan	–11.8	Jan	+ 8.9	Q3	111.3	Feb
India	+ 5.3	Q3	+ 3.2	Jan	+ 4.9	Jan	– 5.5	Jan	– 0.7	Q3	47.7	Feb
Indonesia	+ 4.1	Q4	+ 2.0	Q2	+15.1	Feb	+25.4	Jan	+ 3.8	Q3	27.0	Jan
Malaysia	– 0.5	Q4	– 6.7	Jan	+ 1.2	Feb	+14.5	Jan	+ 7.4	Q3	30.5	Dec
Philippines	+ 3.8	Q4	–11.3	Dec‡	+ 3.4	Feb	+ 2.6	Dec	+ 4.9	Nov	13.9	Feb
Singapore	– 7.0	Q4	+ 4.7	Jan	– 1.1	Jan	+ 5.7	Jan	+17.9	Q4	72.1	Feb
South Korea	+ 1.8	Q3	+10.2	Jan	+ 2.6	Feb	+ 9.4	Feb	+ 8.2	Jan	104.3	Jan
Taiwan	– 2.7	Q4	+12.0	Jan	+ 1.4	Feb	+17.9	Feb	+19.0	Q4	123.6	Jan
Thailand	+ 1.5	Q3	+ 1.3	Dec	+ 0.3	Feb	+ 2.6	Jan	+ 6.3	Jan	33.1	Jan
Argentina	– 4.9	Q3	–17.2	Jan	+ 4.0	Feb	+ 7.2	Jan	– 6.8	Q3	14.6	Dec
Brazil	– 0.7	Q4	– 1.3	Jan	+ 9.8	Jan	+ 3.5	Feb	–22.1	Jan	36.2	Jan
Chile	+ 2.6	Q3	+ 4.5	Jan	+ 2.5	Feb	+ 1.3	Jan	– 0.9	Q4	14.1	Jan
Colombia	+ 1.0	Q3	– 1.4	Dec	+ 6.7	Feb	+ 0.3	Dec	– 1.2	Q3	10.1	Jan
Mexico	– 1.6	Q4	– 3.6	Dec	+ 4.8	Feb	– 9.5	Jan	–17.1	Q4	47.2	Jan
Peru	+ 3.9	Jan	– 2.1	Dec	– 1.1	Feb	– 0.1	Dec	– 1.1	Q4	8.4	Jan
Venezuela	+ 2.8	Q3	+ 7.9	Oct	+13.7	Feb	+13.0	Q3	+ 4.4	Q4	9.2	Dec
Egypt	+ 4.6	2000†	+ 9.4	2000†	+ 2.5	Dec	– 8.5	Sep	nil	Q3	13.3	Nov
Israel	– 3.4	Q4	– 8.5	Dec	+ 3.1	Jan	– 6.7	Feb	– 3.6	Q3	24.2	Feb
South Africa	+ 1.8	Q4	+ 5.4	Dec	+ 5.0	Jan	+ 3.7	Jan	+ 0.3	Q3	6.0	Jan
Turkey	– 7.1	Q3	– 3.1	Jan	+73.1	Feb	– 9.3	Dec	+ 2.8	Nov	19.1	Jan
Czech Republic	+ 3.2	Q3	+ 2.6	Jan	+ 3.9	Feb	– 3.1	Jan	– 2.6	Q3	14.7	Feb
Hungary	+ 3.3	Q4	– 1.5	Jan	+ 6.2	Feb	– 2.2	Jan	– 1.7	Jan	10.3	Jan
Poland	+ 0.8	Q3	– 1.4	Jan	+ 3.5	Jan	–11.3	Jan	– 6.9	Jan	25.4	Jan
Russia	+ 4.9	Q3	+ 2.2	Jan	+17.9	Feb	+49.7	Dec	+41.5	Q3	32.3	Jan
MORE COUNTRIES	Data for the countries below are not provided in printed editions of *The Economist*											
Pakistan	+ 3.3	2001†	+ 7.7	Sep	+ 2.5	Jan	– 1.0	Nov	+ 0.3	2001†	3.6	Jan
Saudi Arabia	+ 4.5	2000	na		nil	Dec	+50.9	2000	+14.3	2000	17.6	Jan

*Excluding gold, except Singapore; IMF definition. ‡New series. †Year ending June.

Text refers only to the first 25 countries listed

Sources: National statistics offices, central banks and stock exchanges; Thomson Financial Datastream; Economist Intelligence Unit; Reuters; Warburg Dillon Read; J.P Morgan Chase; Hong Kong Monetary Authority; Centre for Monitoring Indian Economy; FIEL; EFG-Hermes; Bank Leumi Le-Israel; Standard Bank Group; Garanti Bank; Deutsche Bank; *Russian Economic Trends.*

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Financial markets

Mar 14th 2002
From The Economist print edition

	Currency units			Interest rates	Stockmarkets	% change on		
	per $		per £	short-term	Mar 13th		Dec 31st 2001	
	Mar 13th	year ago	Mar 13th	% p.a.		one week	in local currency	in $ terms
China	8.28	8.28	11.7	na	1,693.7	+3.5	– 1.1	– 1.1
Hong Kong	7.80	7.80	11.0	2.24	11,217.5	+1.9	– 1.6	– 1.6
India	48.7	46.6	68.8	6.09	3,569.6	–1.2	+ 9.4	+ 8.4
Indonesia	9,975	10,160	14,096	17.41	474.0	–0.6	+ 20.9	+ 26.1
Malaysia	3.80	3.80	5.37	3.28	754.5	+2.4	+ 8.4	+ 8.4
Philippines	50.9	48.2	72.0	7.31	1,382.6	–2.5	+ 18.4	+ 19.9
Singapore	1.83	1.77	2.58	1.06	1,785.7	–0.8	+ 10.0	+ 11.2
South Korea	1,316	1,277	1,859	4.54	849.1	+0.7	+ 22.4	+ 22.2
Taiwan	34.9	32.5	49.4	2.55	6,088.3	–0.2	+ 9.7	+ 9.9
Thailand	43.3	43.7	61.2	2.31	378.6	–3.3	+ 24.6	+ 27.3
Argentina	2.33**	1.00	3.29	na	403.1	+5.3	+ 36.4	– 41.4
Brazil	2.34	2.07	3.31	18.80	14,213.8	+2.8	+ 4.7	+ 3.3
Chile	658	586	930	4.92*	5,437.6	+0.3	+ 0.7	+ 1.2
Colombia	2,268	2,286	3,205	10.79	1,117.6	+3.7	na	na
Mexico	9.12	9.57	12.9	6.78	7,218.5	+0.9	+ 13.3	+ 13.9
Peru	3.45	3.52	4.88	2.97	1,296.5	–0.5	+ 10.3	+ 10.1
Venezuela	901	705	1,273	33.64	6,914.0	–0.3	+ 5.2	– 11.5
Egypt	4.63	3.88	6.55	7.22	5,361.8	–0.5	+ 1.7	+ 0.4
Israel	4.68	4.14	6.61	2.73	396.8	+0.2	– 11.2	– 16.2
South Africa	11.6	7.87	16.4	10.50	11,025.1	+1.4	+ 5.6	+ 9.4
Turkey	1,362,500	981,500	1,925,349	52.00	10,594.0	–6.6	– 23.1	– 17.9
Czech Republic	36.1	37.9	51.0	4.30	440.0	+3.6	+ 11.5	+ 9.9
Hungary	281	292	396	8.40	8,065.5	–2.6	+ 13.1	+ 10.8
Poland	4.15	4.07	5.87	10.39	15,112.4	–1.3	+ 8.5	+ 3.3
Russia	31.1	28.7	43.9	25.00	322.8†	+1.1	+ 26.5	+ 24.1
EMF (MSCI)‡	1.00		1.41	na	347.6	–0.1	na	+ 9.5
EMBI+§	1.00	1.00	1.41	na	213.4	–0.2	na	+ 6.5

*New series. †In $ terms. ‡Emerging Mkts Free. §J.P. Morgan Chase's Emerging Mkts Bond Index Plus. **Fixed official rate 1.40.

Sources: National statistics offices, central banks and stock exchanges; Thomson Financial Datastream; Economist Intelligence Unit; Reuters; Warburg Dillon Read; J.P Morgan Chase; Hong Kong Monetary Authority; Centre for Monitoring Indian Economy; FIEL; EFG-Hermes; Bank Leumi Le-Israel; Standard Bank Group; Garanti Bank; Deutsche Bank; *Russian Economic Trends*.

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